

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
Cc: Dan Conable[dan@catoanalytics.com]; John-Larson@nacdn.net[John-Larson@nacdn.net]
From: Ernie Shea
Sent: Fri 4/11/2014 4:54:17 PM
Subject: underutilized land data
[Copy of New England + Mid-Atlantic idle farmland data.xls](#)
[Copy of Northeast + Virginia idle farmland data.xls](#)
[Copy of Northeast idle farmland data.xls](#)

Ben-

Just a quick note to follow up with you on the conversation we have this past Wednesday on the amount of underutilized/marginal land that is available for bioenergy feedstock production. Attached are a couple of data sets examining these land resources using USDA's NASS and NRI data bases. We pulled this information together a few years ago when the Chesapeake Bay Commission was working on the potential for biofuel production the watershed- Balancing Energy, Economy and Environment (see page 10). The report showed that 50% of the cropland in the watershed was idled and available for next gen biofuel feedstock production!

-

The data is a little old but I'm sure USDA could help update it. The bottom line is that there is a lot of acreage available for perennial grass/short rotation woody biomass feedstock production where corn and bean production does not pencil out. I'm copying Dan Conable who pulled this data together in the event he has addition details to add.

Thanks for taking the time to meet with us. Hope this helps.

Ernie

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NASS 2002

	grazed cropland	idle, cover crops, not harvest or grazed	cultivated summer fallow	pasture (excluding woodland pasture) and rangeland	crp/wrp	total	total non/crp
NY	511,046	328,855	42,513	550,225	211,996	1,644,635	1,432,639
VT	80,443	22,561	2,275	89,095	1,376	195,750	194,374
NH	19,911	11,093	584	19,848	1,161	52,597	51,436
ME	47,862	81,936	5,550	40,967	26,259	202,574	176,315
MA	29,858	12,895	1,177	31,279	191	75,400	75,209
RI	2,934	2,167	182	5,080	42	10,405	10,363
CT	23,431	12,326	789	21,988	675	59,209	58,534
NJ	56,908	28,715	2,450	41,579	2,605	132,257	129,652
PA	591,274	348,524	19,311	526,723	190,959	1,676,791	1,485,832
DE	6,851	9,662	998	6,540	6,792	30,843	24,051
MD	107,463	70,219	5,117	120,419	57,397	360,615	303,218
VA	1,267,163	211,740	29,678	1,412,483	107,610	3,028,674	2,921,064
WVA	499,226	45,126	1,816	754,045	266	1,300,479	1,300,213
total	3,244,370	1,185,819	112,440	3,620,271	607,329	8,770,229	8,162,900
US	60,557,805	37,281,096	16,559,229	395,278,829	32,723,967	542,400,926	509,676,959
NE&MA%	5.4%	3.2%	0.7%	0.9%	1.9%	1.6%	1.6%

NRI 2003

	cultivated cropland	idle cropland	pasture	range	pasture + idle cropland total	percent of cropland idle
NY	2,097,800	3,261,100	2,584,100	0	5,845,200	60.9%
VT	143,300	443,200	314,400	0	757,600	75.6%
NH	18,800	105,800	89,300	0	195,100	84.9%
ME	123,700	260,800	37,400	0	298,200	67.8%
MA	54,900	196,800	135,900	0	332,700	78.2%
RI	3,800	16,500	89,300	0	105,800	81.3%
CT	63,900	108,300	128,700	0	237,000	62.9%
NJ	362,600	165,300	101,600	0	266,900	31.3%
PA	2,729,500	2,394,800	200,000	0	2,594,800	46.7%
DE	452,400	5,500	22,900	0	28,400	1.2%
MD	1,224,800	291,800	456,700	0	748,500	19.2%
VA	1,458,200	1,404,200	2,904,500	0	4,308,700	49.1%
WVA	109,900	710,700	1,472,400	0	2,183,100	86.6%
Total	8,843,600	9,364,800	8,537,200	0	17,902,000	51.4%
US	309,900,000	58,000,000	117,000,000	5,100,000	175,000,000	15.8%
NE&MA%	2.9%	16.1%	7.3%	0.0%	10.2%	

- **Note:** These two data sets are only roughly comparable for several reasons. The Census of Agriculture, conducted by USDA's National Agricultural Statistics Service, gathers data only on land in farms, including both land owned by and rented by farmers. The Census does not provide data on any idle farmland that is not part of an active farmer's landholdings. Data is based on reports by farmers, with some adjustments by NASS staff. The National Resources Inventory, managed by USDA's Natural Resource Conservation Service, is derived from a statistical sample of plots of land, based on observation of land cover from satellite and ground data. The purpose of the Census of Agriculture is to provide information on the status of the farm economy. The purpose of the NRI is to detect trends in land use, without respect to who owns the property. NRI data has a fairly wide margin of error (sometimes as much as 10% either way), because budgets do not permit a very intensive sampling pattern. Nevertheless, it does provide presumably unbiased insight into the question: how much land is there that *could be* producing crops or supporting livestock that is not currently part of the agricultural economy?

Idle cropland: As should be clear from the foregoing, the "idle cropland" percentage in the second table comprises open land that is not producing crops at this time, but is neither too steep nor wet to be a candidate for crop production. This land, along with the roughly 2/3 of the pastureland estimated by NRI but not enumerated in the Census of Agriculture, is the land that is at least a potential reserve for bioenergy crop production in the Northeastern United States.

ED-00313-0365-00001829

NASS 2002

	grazed cropland	idle, cover crops, not harvest or grazed	cultivated summer fallow	pasture (excluding woodland pasture) and rangeland	crp/wrp	total	total non/crp
NY	511,046	328,855	42,513	550,225	211,996	1,644,635	1,432,639
VT	80,443	22,561	2,275	89,095	1,376	195,750	194,374
NH	19,911	11,093	584	19,848	1,161	52,597	51,436
ME	47,862	81,936	5,550	40,967	26,259	202,574	176,315
MA	29,858	12,895	1,177	31,279	191	75,400	75,209
RI	2,934	2,167	182	5,080	42	10,405	10,363
CT	23,431	12,326	789	21,988	675	59,209	58,534
NJ	56,908	28,715	2,450	41,579	2,605	132,257	129,652
PA	591,274	348,524	19,311	526,723	190,959	1,676,791	1,485,832
DE	6,851	9,662	998	6,540	6,792	30,843	24,051
MD	107,463	70,219	5,117	120,419	57,397	360,615	303,218
VA	1,267,163	211,740	29,678	1,412,483	107,610	3,028,674	2,921,064
total	2,745,144	1,140,693	110,624	2,866,226	607,063	7,469,750	6,862,687
US	60,557,805	37,281,096	16,559,229	395,278,829	32,723,967	542,400,926	509,676,959
NE %	4.5%	3.1%	0.7%	0.7%	1.9%	1.4%	1.3%

NRI 2003

	cultivated cropland	idle cropland	pasture	range	pasture + idle cropland total	percent of cropland idle
NY	2,097,800	3,261,100	2,584,100	0	5,845,200	60.9%
VT	143,300	443,200	314,400	0	757,600	75.6%
NH	18,800	105,800	89,300	0	195,100	84.9%
ME	123,700	260,800	37,400	0	298,200	67.8%
MA	54,900	196,800	135,900	0	332,700	78.2%
RI	3,800	16,500	89,300	0	105,800	81.3%
CT	63,900	108,300	128,700	0	237,000	62.9%
NJ	362,600	165,300	101,600	0	266,900	31.3%
PA	2,729,500	2,394,800	200,000	0	2,594,800	46.7%
DE	452,400	5,500	22,900	0	28,400	1.2%
MD	1,224,800	291,800	456,700	0	748,500	19.2%
VA	1,458,200	1,404,200	2,904,500	0	4,308,700	49.1%
Total	8,733,700	8,654,100	7,064,800	0	15,718,900	49.8%
US	309,900,000	58,000,000	117,000,000	5,100,000	175,000,000	15.8%
NE%	2.8%	14.9%	6.0%	0.0%	9.0%	

FD NM 313-6745 NMN 1830

COMPARISON OF LAND AREA DATA FROM THE CENSUS OF AGRICULTURE AND THE NATIONAL RESOURCES INVENTORY

CENSUS OF AGRICULTURE - 2002

	grazed cropland	idle, cover crops, not harvest or grazed	cultivated summer fallow	pasture (excluding woodland pasture) and rangeland	crp/wrp	total	total non/crp
NY	511,046	328,855	42,513	550,225	211,996	1,644,635	1,432,639
VT	80,443	22,561	2,275	89,095	1,376	195,750	194,374
NH	19,911	11,093	584	19,848	1,161	52,597	51,436
ME	47,862	81,936	5,550	40,967	26,259	202,574	176,315
MA	29,858	12,895	1,177	31,279	191	75,400	75,209
RI	2,934	2,167	182	5,080	42	10,405	10,363
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PA	591,274	348,524	19,311	526,723	190,959	1,676,791	1,485,832
DE	6,851	9,662	998	6,540	6,792	30,843	24,051
MD	107,463	70,219	5,117	120,419	57,397	360,615	303,218
total	1,477,981	928,953	80,946	1,453,743	499,453	4,441,076	3,941,623
US	60,557,805	37,281,096	16,559,229	395,278,829	32,723,967	542,400,926	509,676,959
NE %	2.4%	2.5%	0.5%	0.4%	1.5%	0.8%	0.8%

NATIONAL RESOURCES INVENTORY - 2003

	cultivated cropland	idle cropland	pasture	range	pasture + idle cropland total	percent of cropland idle
NY	2,097,800	3,261,100	2,584,100	0	5,845,200	60.9%
VT	143,300	443,200	314,400	0	757,600	75.6%
NH	18,800	105,800	89,300	0	195,100	84.9%
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PA	2,729,500	2,394,800	200,000	0	2,594,800	46.7%
DE	452,400	5,500	22,900	0	28,400	1.2%
MD	1,224,800	291,800	456,700	0	748,500	19.2%
Total	7,275,500	7,249,900	4,160,300	0	11,410,200	49.9%
US	309,900,000	58,000,000	117,000,000	5,100,000	175,000,000	15.8%
NE%	2.3%	12.5%	3.6%	0.0%	6.5%	

Note: These two data sets are only roughly comparable for several reasons. The Census of Agriculture, conducted by USDA's National Agricultural Statistics Service, gathers data only on land in farms, including both land owned by and rented by farmers. The Census does not provide data on any idle farmland that is not part of an active farmer's landholdings. Data is based on reports by farmers, with some adjustments by NASS staff. The National Resources Inventory, managed by USDA's Natural Resource Conservation Service, is derived from a statistical sample of plots of land, based on observation of land cover from satellite and ground data. The purpose of the Census of Agriculture is to provide information on the status of the farm economy. The purpose of the NRI is to detect trends in land use, without respect to who owns the property. NRI data has a fairly wide margin of error (sometimes as much as 10% either way), because budgets do not permit a very intensive sampling pattern. Nevertheless, it does provide presumably unbiased insight into the question: how much land is there that ~~should be~~ producing crops or supporting livestock that is not currently part of the agricultural economy?

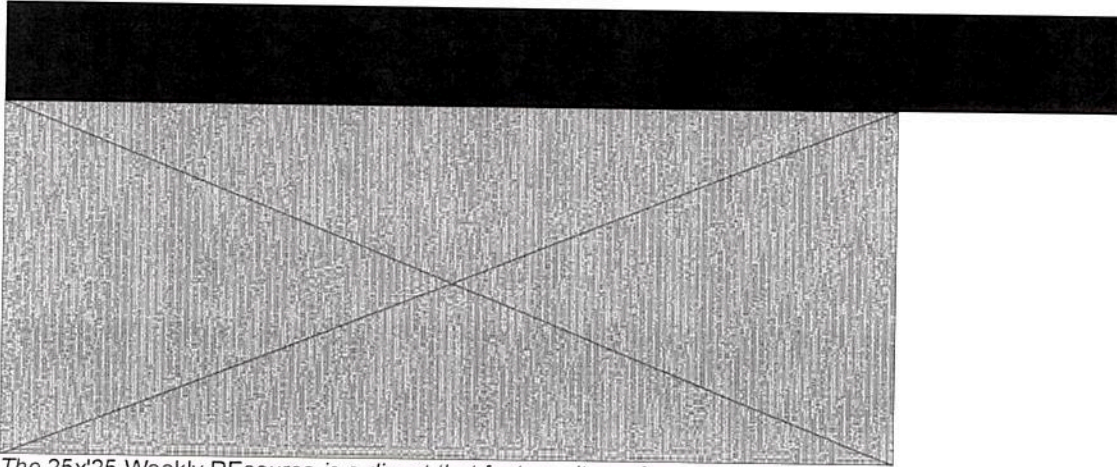
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ED 000313-0365-0000 1831

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Lindsay Fitzgerald
Sent: Thur 4/10/2014 6:27:42 PM
Subject: tea and books?

Time to catch up on the latest gossip? ☺

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: 25x'25
Sent: Fri 3/21/2014 2:49:05 PM
Subject: Weekly REsource for March 21, 2014



The 25x'25 Weekly REsource is a digest that features items from this week's blog site, the [25x'25 REsource](#), and other sources. The [25x'25 REsource](#) and the 25x'25 Weekly REsource complement the role of 25x'25 as an objective and trusted source of information on agricultural and forestry renewable energy and climate solutions. Also, visit us at our [Facebook page](#) and follow us on [Twitter](#).

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Our Featured Blog

Renewable Energy Projects on Preserved Farmland is a Win-Win

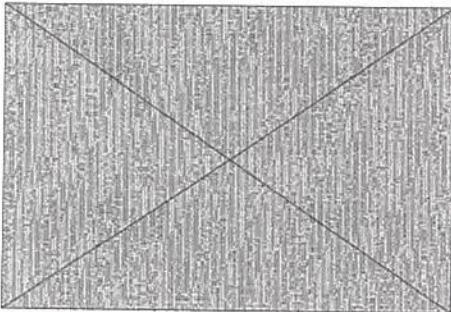
The Maryland legislature is poised to adopt legislation that would allow the location of wind and solar energy projects on small portions of farmland designated as preserved for agricultural use only. The measure, which moved through the Maryland House of Delegates this week by a 97-33 margin and will likely pass through the state Senate soon, raises questions over the value that farmland is supposed to provide. The role of agriculture in the U.S. economy is a critical one and the arguments of those who say

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News of Note

The demand to assure an ample supply of food, feed and fiber must be protected against commercial encroachment are valid. But it must be pointed out that the output from agricultural land has evolved, also producing energy that, like food, feed and fiber, helps provide human sustenance. Most of that energy output is in the form of feedstocks used in the production of biofuels and biopower. But the agricultural landscape is rapidly accommodating other sustainable energy resources, including wind energy and solar power. [Read more...](#)

Reports from Capitol Hill indicate the Senate Finance Committee will vote either late this month or early April on a broad package of tax credits that expired at the end of 2013. The package is said to include a wide array of renewable energy tax benefits.



Renewable energy advocates say the stop-and-go nature of extending production and investment tax credits, often after they have expired, creates uncertainty within the industries they impact, usually causing a slowdown in the construction of new wind, solar or biomass facilities as developers fear the tax credits will not be there after the end of the year.

Among those credits that expired Dec. 31 is a wind energy production tax credit (PTC) of 2.3 cents per kilowatt-hour for the production of electricity, and a community and distributed wind investment tax credit (ITC), the latter a more fiscally viable option for developers of smaller projects in search of construction financing.

A cellulosic biofuel producer tax credit of \$1.01 per gallon and an additional, first-year 50-percent bonus depreciation for cellulosic biofuel production facilities also ended Dec. 31, as did a 30-percent credit for installation costs of alternative fuel refueling property. A biodiesel and renewable diesel credit of \$1.00 per gallon; a 10-cents-per-gallon small agri-biodiesel producer credit; and a \$1.00-per-gallon tax credit for diesel fuel created from biomass are also lapsed at the end of 2013.

There had been much talk last fall of lawmakers undertaking major reform of the U.S.

Headlines of note that was to include a new approach to renewable energy and energy efficiency tax credits. However, Senate leadership has said tax reform is not likely to be taken up by that chamber this year.
News of interest to our 25x20 Partners and advocates for a clean energy future:

A Tax Boost For Advanced Biofuels (Commentary)
Senate Finance Chairman Ron Wyden (D-OR), who recently took over the committee when previous chairman Max Baucus left to become the U.S. ambassador to China, has said he wants the tax credits, which also include provisions that offer tax benefits for beet ethanol plants considered in ND, California for research and manufacturing, among other areas, to be a top priority.

Clearing Up Cloudy Understanding on Solar Power Plant Output

Cold Weather Leads To High Pellet Fuel Demand

Rep. Dave Camp (R-MI), the chairman of the House Ways and Means Committee, did issue a tax reform proposal earlier this year that would retain the PTC for wind energy, though at a retroactively reduced rate of 1.5 cents per kilowatt hour (kWh).

EIA: Biofuels Production Drives Growth In Overall Biomass Energy Use

Ethanol Futures Jump As U.S. Stocks Run Low

Camp's bill would extend the wind PTC through 2024, though the measure would repeal all other credits that have been offered in recent years to other renewable energy sources, including biofuels, before they expired last year. The measure would eliminate a number of tax benefits enjoyed by the oil industry as well.

Minnesota Committee Rejects Biodiesel Mandate Delay

No, Renewables Aren't Going To Blow Up The Grid (Podcast)

Camp's reform measure has little likelihood of passage in the House, much less the Senate. Still, his proposal could indicate what the renewable energy sector might expect in the House if separate legislation extending the PTCs and ITCs is considered.

Renewables Dominate New U.S. Electrical Capacity

Renewable Energy Isn't The End Of America's Old Guard Utility Companies

RFA Says Renewable Fuel Standard Most Effective U.S. Policy on GHGs
Solar Power Cheaper Than Natural Gas, Coal And Nuclear Power In Texas!

States Look To 'Green Banks' To Leverage Private Investment In Clean Tech

A joint event on climate change staged this week by the White House, National Oceanic and Atmospheric Administration (NOAA), the National Aeronautics and Space Administration (NASA) has prompted the renewable fuels industry to argue that the federal Renewable Fuels Standard (RFS) is a new energy future as proposed by EPA.

Wind Energy Reduces Electricity Prices During Heat Waves

Wind Grows As Power Source in Kansas

Wind Industry's New Technologies Are Helping It Compete on Price

Upcoming Events

Bob Dinneen says the RFS is emissions and curb future climate change.

Association President and CEO
duce greenhouse gas (GHG)

25x'25 Webinar Set to Review USDA Renewable Energy Programs April 2

The event, which was highlighted by the announcement of a new website to provide a one-stop location for climate data housed at different federal agencies, was said by Dinneen to be about "finding successful ways to address climate change, including the use of data to help limit future impacts."

"That makes sense and the effort should be applauded," Dinneen said in a statement. The webinar, which is set for noon to 1:15 p.m. EDT, will also include an update on 25x'25's Energy for Economic Growth (EEG) Project, through which 25x'25 and the National Rural Electric Cooperative Association are supporting a group of rural electric utilities in developing and piloting renewable energy for economic growth rate mechanisms and business and community engagement models.

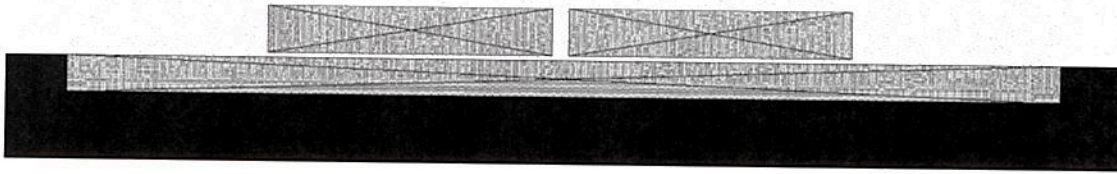
On hand to report findings and answer questions will be:
Dinneen cited a recent Life Cycle Associates study that found corn ethanol reduces GHG emissions by 32 percent compared to petroleum emissions in 2012, including hypothetical land use change emissions. The same study found that corn ethanol reduces GHG emissions by 37-40 percent when compared to tight oil from fracking and tar sands.

- John Badalino - RUS Administrator
- Todd Campbell, Special Assistant for Energy Programs, USDA
- Kim Pheil - Acting Leader, National Energy Technology Team, USDA-NRCS
- Jerry Vap - Chair, Energy for Economic Growth Team, 25x'25 Alliance

To register for the event, click [HERE](#).

"Why then is the (Obama) administration contemplating a reduction in the RFS?" Dinneen asked. Why would the administration scale back its most successful carbon energy program?
Other events of interest to 25x'25 partners and other renewable energy stakeholders can be found by clicking [here](#).

25x'25 Sponsors



The RFA and Growth Energy moved forward with a Supreme Court challenge after a divided panel of the appellate court reversed a finding by District Court Judge Lawrence J. O'Neill holding that the LCFS discriminates against interstate commerce and constitutes extraterritorial regulation in violation of the Commerce Clause.

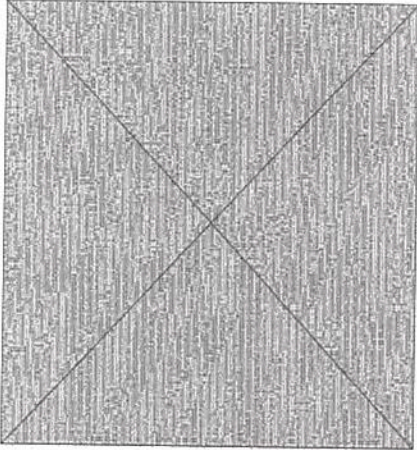
"By its own admission, California's (LCFS) seeks to regulate greenhouse gas emissions occurring in other states by rewarding and punishing industrial and agricultural activity taking place outside California," the groups said. The state "bases the size of these rewards and penalties on whether production took place in 'California' or in the 'Midwest' systematically favoring California."

The groups insist that the Constitution denies states that authority.

When the appeals court denied a rehearing in January, the RFA and Growth Energy said the decision was "a blow to California consumers," because it denies them access to cheaper, cleaner alternative fuels.

EPA Says It Will Modify RFS Pathway Petition Process

EPA says that over the next six months, it will improve the petition process that can lead to new fuel pathways under the federal Renewable Fuel Standard (RFS). The agency says the petition process needs to be more timely and better ensure efficient decision-making.



While the agency is telling those who are considering filing new petitions to hold off until new guidance is finalized later this year, staff will continue to review pending petitions deemed to be high priority or those that have substantial modeling already done. EPA says resource limitations will require prioritization based on the proposed pathway's ability to contribute to the cellulosic mandate, its potential for reducing greenhouse gas (GHG) emissions on a per gallon basis, and its ability to contribute to near-term increases in renewable fuel use. Further prioritization also will be made based on the date of petition submission and the expected date of commercialization.

EPA says it will contact those who have already submitted petitions to discuss their status. The agency cautions that those who elect to submit new petitions before the improvement process is complete could be asked to resubmit their petitions using the new guidance, once it is available.

The agency says the three steps to be taken to improve the petition process include:

- A "lean government" exercise to improve the quality, transparency and efficiency

of the EPA's internal review process. An EPA website explains the exercise that officials say enables environmental agencies to work more efficiently by eliminating waste. EPA officials say the agency has already employed "lean" methods to shorten process timeframes by up to 82 percent and reduce the number of process steps by more than 63 percent. EPA also says state agencies that have used the "lean" exercise have reduced administrative review times by more than 50 percent.

- The development of step-by-step instructions and application templates for different types of petitions. According to the EPA, one goal of this effort will be to help applicants provide all of the data the EPA requires to complete its assessments while reducing extraneous information.

- The launch of a more automated review process for petitions using previously approved feedstocks and well-known production process technologies.

EPA invited stakeholders to submit ideas on how to improve the process by emailing their ideas to support@epamts-support.com (the phrase "Petition Process Input" should be used as the subject line).

EPA currently lists approximately three dozen pending pathway assessments on its website, including 18 for ethanol. There are also pending pathways for biodiesel, renewable diesel, jet fuel, heating oil, naphtha, LPG, renewable electricity, CNG, isobutanol, cellulosic biofuel, dimethyl ether, un-transesterified plant oil and cellulosic diesel.

A full copy of the notice can be downloaded from the EPA [website](#).

Biodiesel Industry Observes a National Day to Celebrate Growth

An industry-wide celebration of National Biodiesel Day took place this week, marking the anniversary March 18 of Rudolf Diesel's birth. And the National Biodiesel Board is quick to point out that when Diesel first introduced his engine, it ran not on petroleum but rather on peanut oil.



The NBB said in a statement that diesel engines are responsible for moving the majority of goods, including electronics, from manufacturer to consumer. "And more than ever before, cleaner burning, renewable biodiesel is playing a role."

NBB CEO Joe Jobe said that nearly every product that ends up on a store shelf is dependent on diesel fuel to get it there.

"That heavy reliance on one fuel means our economy is directly linked to petroleum price swings. It's in everyone's best interest to have a choice in transportation fuel, and that's where biodiesel - America's first advanced biofuel - comes in," Jobe said.

"National Biodiesel Day is a reminder that diversity in fuel supply means more stable prices and less dependence on a global oil cartel. That benefits the economy, the environment and leaves more opportunities for our future," he added.

With plants in almost every state, biodiesel production neared 1.8 billion gallons in 2013 and supported more than 62,000 jobs.

The NBB, however, says inconsistent federal policy threatens the industry's progress, citing the expiration of a "modest tax incentive designed to help the growing biodiesel industry break into the petroleum monopoly stands expired," and a "weak renewable fuel standard (RFS) proposal from the EPA."

Last November, EPA proposed a scaling back in 2014 of the RFS, which requires minimum volumes of renewable fuels to be blended into the fuel system.

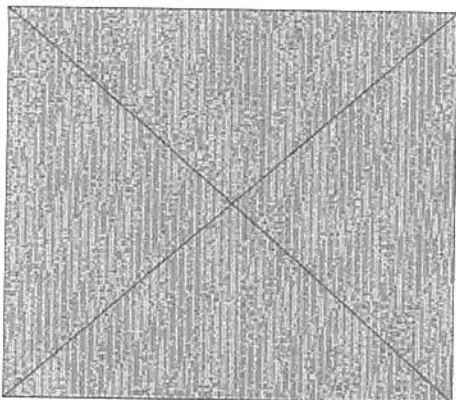
Specifically for biodiesel, the EPA proposed setting the volume requirement this year at 1.28 billion gallons - the same as that set for last year and a sharp reduction from 2013's record production in the biomass-based diesel category of 1.8 billion gallons.

"The biodiesel industry has called upon the administration to revise the biodiesel proposal "so that it is at least consistent with last year's production."

Biodiesel is designated by EPA as an advanced biofuel made from sustainable resources such as soybean oil, recycled grease and other fats and oils, and having at least 50 percent fewer emissions than its petroleum equivalents. Biodiesel is the first and only EPA-designated advanced biofuel being produced on a commercial scale across the country.

Purdue Research Discovery Could Yield More Efficient Plants for Biofuels

Genetically modifying a key protein complex in plants could lead to improved crops for the production of cellulosic biofuels, a Purdue University study says. The study, funded with the help of DOE, was recently published in *Nature*.



Biochemistry Professor Clint Chapple and fellow researchers generated a mutant *Arabidopsis* plant whose cell walls can be converted easily into fermentable sugars, but does not display the stunted growth patterns of similar mutants. The finding could maintain yield while reducing the need for costly pretreatment processes that make cellulosic biofuels more inefficient to produce than corn ethanol.

"This study opens the door to a whole new set of technologies we never could have imagined," Chapple said. "This finding is not the silver bullet that will suddenly make the wide-scale production of cellulosic biofuels possible, but it is a very important step forward."

Cellulosic biofuels are made from the sugars in the cell walls of wood, grasses and the inedible parts of plants. But production of cost-efficient cellulosic biofuels is currently limited by lignin, the compound that gives plants strength and structural integrity. Lignin binds tightly to the main component of plant cell walls, cellulose, which is made of simple sugars. Freeing cellulose from lignin so that it can be broken down into sugars and fermented into fuel requires expensive and complicated pretreatment processes.

Scientists have probed ways of genetically modifying plants to weaken lignin's grip, but disrupting the lignin biosynthetic pathway in plants often leaves them dwarfed and low-yielding.

"We've always known we couldn't eliminate lignin entirely," Chapple said. "If there isn't enough lignin in the cell walls, the plant's water conducting system will collapse. For the plants, it's like trying to drink a milkshake through a paper straw. They need the strength lignin provides to pull water up from their roots."

The challenge, Chapple said, was to find a way of preserving lignin's key structural functions while preventing it from interfering with the use of cellulosic materials.

Chapple and his fellow researchers took an Arabidopsis mutant plant in which the lignin biosynthetic pathway had been interrupted - and was, therefore, weak and dwarfed - and made two additional mutations by knocking out two plant genes known as MED5a and MED5b. The triple mutation resulted in a healthy plant with normal growth and wild-type levels of lignin.

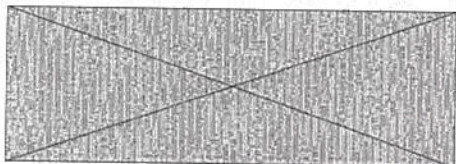
"We've never worked with plant material like this before," Chapple said. "It gives up its sugars quite easily and eliminates the need for pretreatment, which is a big component of the expense of making cellulosic biofuels."

While lignin is considered a waste material in current biofuels production, the simple composition of the novel lignin - which is made up almost exclusively of a single type of alcohol - could make it a potential fuel source in the future, Chapple said.

The discovery could also lead to the development of more digestible forage crops, which could improve weight gain in livestock, researchers say.

Pellet Demand Soars in the Northeast

Severe winter conditions had led to higher demand in the northeastern United States for wood pellets as a heating source, says Pellet Fuels Institute Executive Director Jennifer Hedrick.



The National Oceanic and Atmospheric Administration (NOAA) reports that the average temperature for the contiguous United

States was 31.3 degrees - the coldest in four years, Hedrick noted.

"The extreme and persistent cold weather has required many residential pellet appliance owners to use a greater volume of pellets than they would during an average winter, causing a lower availability of pellets in some areas as we approach the end of winter," she said.

Hedrick said consumers are increasingly turning to pellet appliances to heat their homes, especially during a colder than normal winter that causes higher fossil fuel heating costs.

"Pellet fuels are efficient and considerably more affordable than electricity and fossil fuels such as heating oil. It is encouraging that so many people are realizing the benefits that pellet heat delivers," she said.

The Hearth, Patio and Barbecue Association, reports pellet appliance shipments - including stoves and furnaces - increased twelve percent over the last year.

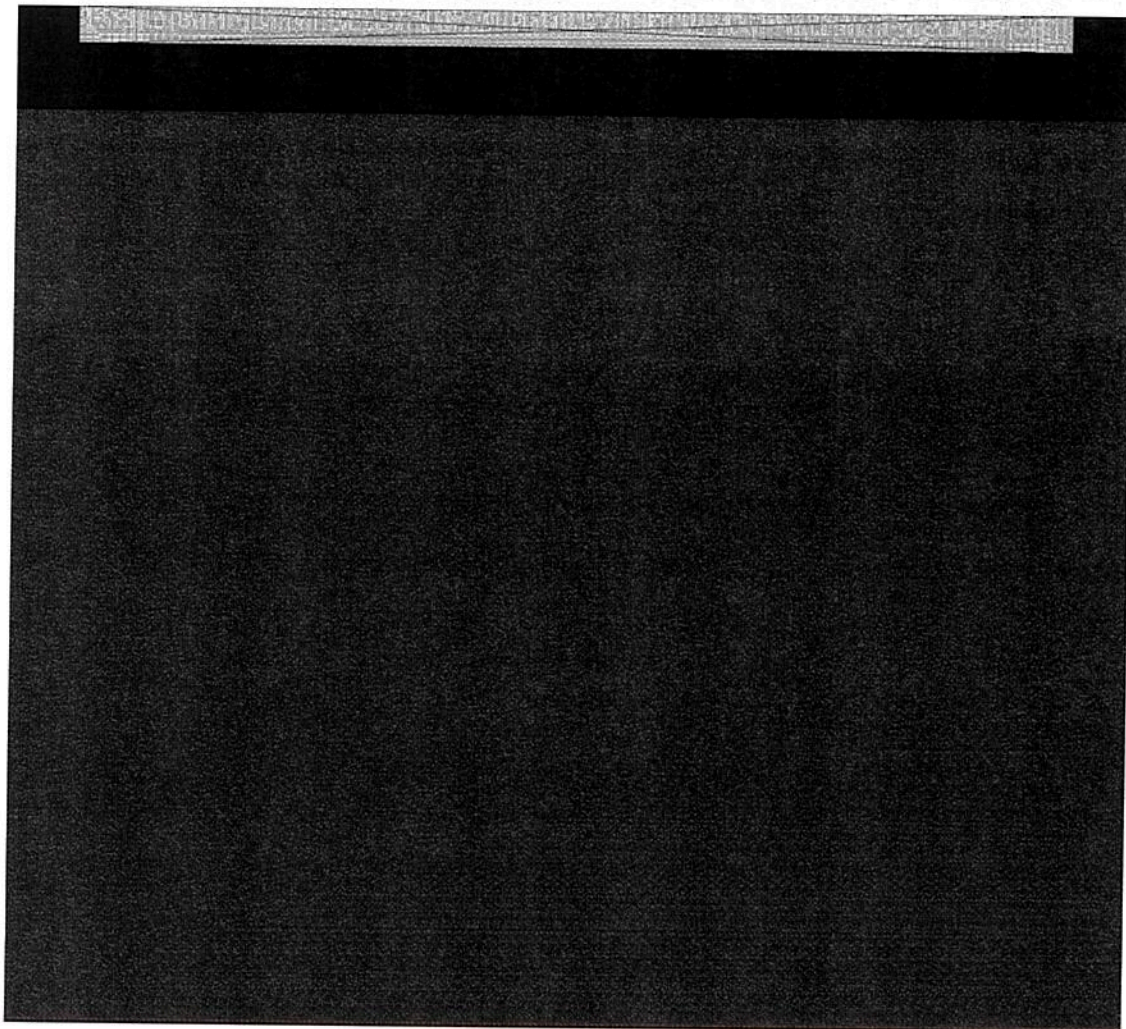
"Well over one million homeowners in the United States rely on domestically produced wood pellet heat, and while this number grows every year, the Pellet Fuels Institute manufacturer members nationwide still have ample production capacity to meet that growing need," she said.

"Although previous winters were marked with nearly universal pellet fuel surpluses, pellet plant operators cannot predict the severity and duration of each winter and perfectly match supply with demand," Hedrick stated. "While some parts of the country experienced shipping delays, overall the U.S. had capacity available, just not always at the right place, price or time for all parts of the country."

She noted that competing heat sources such as propane and fuel oil saw similar, if not compounded product delays and shortages, "we don't believe any homeowner should be without pellet fuel."

She said members and other industry providers are looking ahead and working together with dealers, retailers and consumers to strengthen logistics and inventories for coming years.

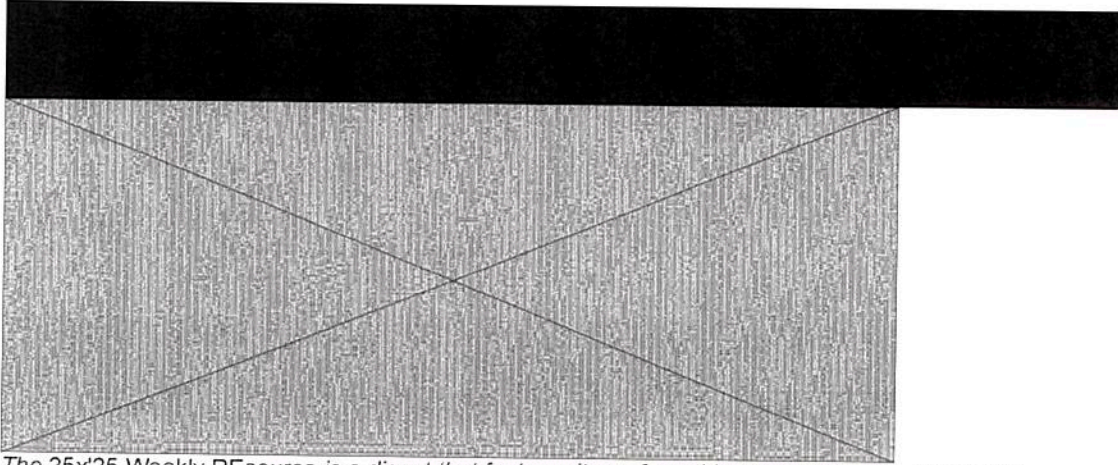
While noting the institute's appreciation of "the trust that so many consumers place in this growing industry," she urged consumers and retailers to plan ahead when possible and purchase pellets at times of lower demand, like spring and summer, "to not only assure their supply, but to aid in planning for any eventuality."



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To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: 25x'25
Sent: Fri 3/14/2014 4:21:53 PM
Subject: Weekly REsource for March 14, 2014



The 25x'25 Weekly REsource is a digest that features items from this week's blog site, the [25x'25 REsource](#), and other sources. The [25x'25 REsource](#) and the 25x'25 Weekly REsource complement the role of 25x'25 as an objective and trusted source of information on agricultural and forestry renewable energy and climate solutions. Also, visit us at our [Facebook page](#) and follow us on [Twitter](#).

Our Featured Blog

News of Note

Headlines of Note

Upcoming Events



Our Featured Blog

CARB: Give Ethanol a Full Opportunity to Enhance Air Quality

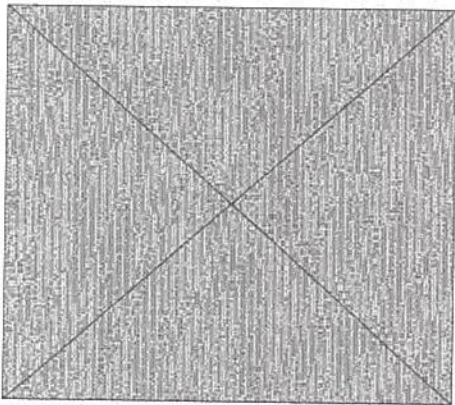
Developments in California this week suggest a positive movement toward a more equitable policy for ethanol. The California Air Resources Board (CARB) held a workshop with staff and stakeholders this week to review materials that could - and should - lead to a reduction in the "penalty" the board imposes on ethanol use in the state. The potential for relief in California is good news for all U.S. ethanol producers who have long suffered from the unfair and inaccurate demonization of their product in

STAY CONNECTED

News on climate a menace to clean air. How many news stories on biofuels do you see that include a reference to the ludicrous claim that ethanol emits more greenhouse gases (GHGs) than gasoline? Now, a state that imposes the strictest clean air standards in the nation is revisiting its five-year-old Low Carbon Fuel Standard (LCFS) - a critical weapon in a broad arsenal the state uses to combat some of the nation's dirtiest air - with an eye towards giving ethanol more of what it is due: recognition that it contributes to cleaner air. But does it go far enough? [Read more...](#)

Developments in KS, MI underscore value of State Renewable Standards

As Kansas clean energy stakeholders continue to do battle in the state legislature with fossil fuel interests who seek to weaken the state's Renewable Portfolio Standard (RPS), Michigan leaders are learning by extending the state's RPS, which is set to expire next year, renewable energy can continue to grow at a rate sufficient to meet a third of its energy needs by 2030 with virtually no added cost to consumers.



In Kansas this week, a bill to repeal the state's renewable energy property tax exemption was introduced on behalf of climate denier and chair of State Rep. Dennis Hedke, chairman of the Kansas House Energy and Environment Committee and a member of the American Legislative Exchange Council, which has mounted campaigns in statehouses across the country aimed at repealing state renewable electricity standards.

Meanwhile, a draft bill is reportedly being circulated in the Kansas Senate Ways and Means Committee that would repeal the state's RPS, which calls for meeting 20 percent of peak demand for electricity with renewable energy by 2020. The bill is expected to be referred to the Senate Utilities Committee, which last year passed out a measure delaying implementation of the RPS. That measure, however, was later defeated on the Senate floor.

RPS advocates say the appearance of the repeal bill in the Senate is of particular concern, given that the Senate leadership had earlier said it will not take up an RPS bill

Headlines of Note in the House.

News of interest to our 25x'25 Partners and advocates for a clean energy future:

Last year's RPS repeal bill (HB 2241), which renewable energy advocates and industry leaders managed to get tabled, continues to be held in the House Energy and Environment Committee, where votes to move the measure are reportedly lacking.

A Peek Into The Astonishing Future Of Wind Power

Attacks on the RFS, No Matter How Well Funded, Don't Stand Up to Scrutiny

Americans for Prosperity, a national anti-renewable energy policy group, and lobbyists with the oil and gas firm Koch Industry have been ever present at the Kansas statehouse supporting the measures to repeal or weaken the state's RPS.

CARB Punctuates Biodiesel Position as America's Advanced Biofuel

Cellulosic Ethanol Fights for Life

AFP also has been running an expensive statewide media campaign, including radio and television spots, and phone banking.

City to Continue Using Green Energy

Congress Needs to Renew Clean Energy Tax Incentives

Discovery of Plant Gene Lays Groundwork for Improved Biofuel Processing

RPS advocates are urging those organizations with constituencies in Kansas to direct them to www.windworksforkansas.com, a website that generates letters to the state legislators in support of the state's RPS.

Fostering Community Power: A New Pay It Forward Model for Solar

Indiana Governor Should Veto Bill That Kills Energy Efficiency (editorial)

New Interactive Map Explores State of U.S. Solar Power

Michigan, the state can meet nearly a third of its electricity needs by tripling power produced from in-state renewable energy sources by 2030 at virtually no additional cost to consumers, and while maintaining reliability and springing no new costs.

RJM Grid Operators: We Can Handle 30 Percent Renewable Energy Integration

investment in the state, according to a Union of Concerned Scientists (UCS) report.

Solar Leads U.S. in Clean Energy Jobs in 2013

Upbeat Update on Waste-to-Energy Plan is Music to Marion's Ears

By continuing to ramp up renewables at the same growth rate as the current renewable energy standard (RES) - 1.5 percent per year - Michigan could boost its in-state renewable energy production to 32.5 percent in 2030. Such a move would cut power plant carbon emissions and lower the state's exposure to the economic, health and environmental risks of over-relying on coal or natural gas, the report contends.

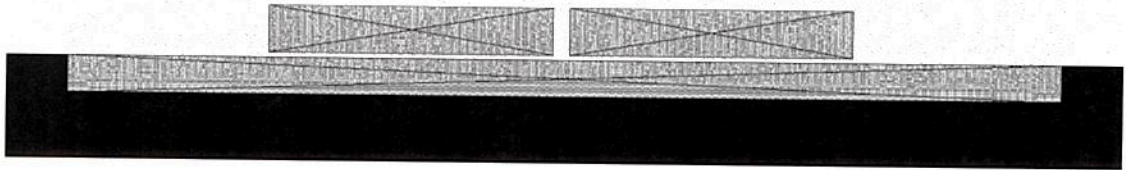
Upcoming Events

USDA Renewable Energy Programs: New Tools to Help Achieve the 25x'25 Vision

Ramping up renewables to such a level would come at virtually no increase in electricity costs, with consumers projected to pay just 0.3 percent more over the next 15 years, the report states. Instead of spending ratepayer funds to burn more coal and natural gas, the UCS analysis shows that a stronger RES would redirect these funds toward

25x'25 Webinar: Wednesday April 2, Noon to 1:15 p.m. EDT

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25x25 Sponsors renewable energy resources to meet the strengthened RES.



Hawaii, Georgia, North Dakota and New Mexico.

This is the second full year E2 has tracked clean energy and clean transportation job announcements. Over the past two years combined, E2 has tracked more than 500 announcements that could create more than 186,500 jobs.

The new report, as well as details on individual announcements, are available at www.CleanEnergyWorksForUs.org.

"Our report makes it clear. When we invest in clean energy and clean transportation, we put people to work in every corner of the country. Whether it's a new wind farm in Iowa, an energy efficiency retrofit in Massachusetts, or a utility-scale solar array in Nevada, these projects require American ingenuity and labor. The sector is helping stimulate our economy," said E2 Executive Director Judith Albert.

Last year's job announcements were about 30 percent lower than in 2012. While this is in part due to our methodology, clean energy job growth also faced economic headwinds in 2013, including the continued low cost of natural gas, as well as attempts by renewable energy opponents to block or roll back favorable policies at the federal level and in numerous states.

"As a business owner, I see a strong need for long-term policies that can stimulate private investment in clean energy and energy efficiency," said Geoff Chapin, CEO of Next Step Living, a Boston-based energy efficiency company. "Businesses in this sector create jobs, save consumers money, and help our environment. But ongoing regulatory uncertainty takes a serious toll. Elected officials shouldn't be holding back economic growth. They should be encouraging it,"

In the fourth quarter alone, E2 tracked more than 70 projects nationwide that could create 13,000 jobs. Spikes in wind manufacturing and solar manufacturing added to the national quarterly total. Texas was the top state in the quarter, with as many as 3,200 jobs coming from eight projects, most of them in wind.

Some clean energy and clean transportation announcements in 2013 include:

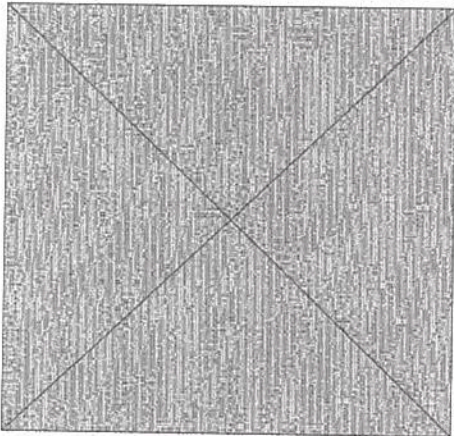
- In California, the California Ethanol and Power Project will produce 66 million gallons of ethanol annually from sugar cane and sweet sorghum. Construction of a biofuels refinery and other facilities are expected to create 800 construction jobs and 400 permanent jobs in Rep. Juan Vargas' district east of San Diego. "This is more evidence that the advanced biofuel industry is scaling up and putting people to work," said Mary Solecki, director of E2's Clean Fuels Program.
- In Texas, Nest Labs, acquired by Google on Feb. 7, announced 140 technical support and customer service jobs. The company has a growing customer base for its energy-saving thermostat. The announcement came from Rep. Lloyd Doggett's district near Austin.
- In Massachusetts, Next Step Living, based in Boston, announced it expects to add 100 jobs by Q2 2014. The company has experience rapid growth in its energy efficiency business.
- In Illinois - which ranked No. 6 in the nation for the year - General Electric announced it is investing \$10 million and adding 30 jobs to staff two new manufacturing lines that will produce components of energy-efficient soft white light bulbs. Increased demand from Walmart customers brought about GE's investment. The bulbs GE will help make in Mattoon, Ill., used to be made in Mexico. Mattoon is in the home district of Rep. John Shimkus.
- In New Jersey, Trinity Solar LLC installed solar panels at housing units at Joint Military Base McGuire-Dix-Lakehurst in Burlington County, creating 120 jobs. Clean energy is an increasingly common presence on military bases nationwide.

Looking ahead, clean energy and clean transportation job growth could see an uptick in 2014 if Congress reinstates critical tax policies such as the wind industry production tax credit (PTC) and several energy efficiency tax incentives," E2 said in a statement. Congress allowed the tax incentives to expire at the end of 2013.

Clean energy jobs also could benefit from the rollout of the first-ever limits on carbon pollution from power plants, as well as from other elements of President Obama's climate change initiative, the report states.

NBB Commends CARB Support of Biodiesel's Role in LCFS

The National Biodiesel Board (NBB) this week commended the California Air Resources Board for proposals to modify the state's Low Carbon Fuel Standard (LCFS), but retain the status of biodiesel as a low-carbon fuel under the standard.



"The proposal recognizes biodiesel's sustainability and environmental benefits, takes a notable step in the right direction, and will open new avenues for biodiesel use in the state," the NBB said in a statement released after a CARB workshop held Wednesday to brief stakeholders on possible changes to the LCFS.

The NBB notes that for several years CARB has been working to assign indirect land use change (ILUC) values to various alternative fuels. Though the concept of ILUC remains under debate nationally, the NBB says that in California, the ILUC values "will ultimately determine how products may be used to comply with the state's low carbon fuel standard (LCFS) and future carbon reduction goals. The outcome of the final rule is likely to trickle across the nation as other states follow the state's lead on carbon mitigation."

"We applaud the Air Resources Board for recognizing the need to reduce carbon from transportation and fossil fuels to mitigate climate change," said Don Scott, NBB director of sustainability. "Since America's advanced biofuel, biodiesel, is among the most effective tools for carbon reduction, this represents a major step forward. We are hopeful the agency will continue on this path to use the best science to quantify the benefits of biodiesel."

The NBB said it has provided information and resources to CARB as the group worked to improve its quantification through a comprehensive process.

"Figures released [by CARB this week] are preliminary; however, they bring California's policy generally in line with similar values defined by EPA," the biodiesel group said in its statement.

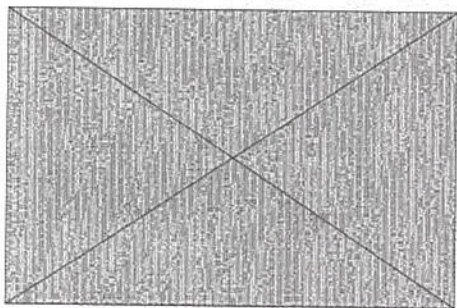
The NBB notes that EPA has concluded that biodiesel reduces greenhouse gas by as much as 86 percent compared to petroleum diesel, and said CARB's revised ILUC estimates showing biodiesel is among the most sustainable fuels available.

The estimates show biodiesel made from soy oil generates about half the indirect emissions that CARB originally outlined during its LCFS rulemaking process in 2009.

"The NBB will continue working with CARB to demonstrate that biodiesel made from a wide array of feedstocks meets the strict sustainability requirements of the LCFS," the group said.

Study Says Small Biomass Power Plants Could Help Rural Economies

Researchers say they have found that creating a bioenergy grid with small biomass power plants could benefit people in rural areas of the country as well as provide relief to an overworked national power grid.



Their study shows that millions of tons of crop residues could be used as a feedstock to power small farm-based power plants that

could offer additional electricity needed in rural areas that don't see high-investment transmission lines.

The research shows that as energy costs rise, more Americans are turning to bioenergy to provide power to their homes and workplaces. Bioenergy is renewable energy made from organic sources, such as biomass. Technology has advanced enough that biomass power plants small enough to fit on a farm can be built at relatively low costs.

Now, "Transporting power through power lines to remote, rural areas is very inefficient and can be expensive for farmers and other rural citizens," said Tom Johnson, a Missouri University agricultural economics professor and co-author of the study. "Farmers already have access to a large amount of biomass material left over each year after harvests. If they had access to small biomass power plants, they could become close to self-sustaining in terms of power."

Furthermore, he said, "if the grid was improved enough, they could even provide additional power to other people around the country, helping to stabilize the national power grid. This could help save rural citizens money and be a boon for rural economies."

Johnson says that as citizens of rural areas become bioenergy producers, they will realize other advantages, including lower transportation costs compared to regions that must import transportation fuels, providing local businesses with an advantage over urban centers. Also, major consumers of processed energy, such as some manufacturers and firms with large air conditioning needs, will find rural areas more attractive because of their lower prices for energy.

Johnson says none of these benefits will be realized unless policymakers work with people from rural areas to provide funding to grow the infrastructure.

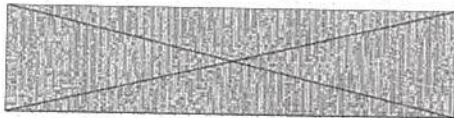
"This is unlikely to occur without clearly articulated goals coupled with strategic guidance from policy," Johnson said. "We need an integration of policy and programs among community leaders, rural entrepreneurs and economic developers or practitioners who act as conduits between entrepreneurs and policy. In order to grow this bioeconomy, the goals of these actors need to be aligned."

Johnson does warn that if this bioeconomy system is created, safeguards must be in place to protect the renewable resources, such as biomass. He also says mechanisms must be in place to ensure an equitable distribution of the rewards from investing; otherwise, local citizens risk becoming impoverished by the destruction of renewable resources and potential environmental degradation.

Johnson and co-author Ira Altman, an agricultural economics professor at Southern Illinois University, published the study in the journal, *Biomass and Bioenergy*.

ACORE Says Attacks on RFS Don't Hold Up Under Scrutiny

Claims of how the Renewable Fuel Standard (RFS) is undercutting land conservation efforts, pushing up food prices and damaging engines are nothing more than well-funded falsehoods promoted by fossil fuel interests who want to discredit the federal requirements calling for cleaner fuels, says the American Council On Renewable Energy (ACORE).



In a blog posted by ACORE communications associate Kyle McGuiness, a proposal currently under consideration by EPA to reduced biofuel blending requirements under the RFS in 2014 "is clearly flawed." But the proposal has given "entrenched fossil fuel interests . . . [the] opportunity to intensify their attacks on the RFS," he writes.

McGuiness said the attacks take several forms, including "foreboding" ads at bus stops or a "slick" website with "a list of purported 'facts' about biofuels.

"Almost every assault on biofuels and the RFS repeats the same dubious spin," focusing on three arguments that are wrong, the blog states.

Claims that the RFS has turned millions of acres of land set aside for conservation into farmland may be oft-repeated, and it is true that since the current version of the RFS was signed into law in 2007, 5 million acres have been removed from the EPA's Conservation Reserve Program (CRP). However, as McGuinness points out, Congress in 2008 reduced the maximum amount of acres allowed in the CRP program by 7 million acres. The reduction in CRP acreage has resulted from congressional policy, not competition for land driven by feedstock production.

Claims that increased ethanol production has hiked food prices have long been disproven, despite the longstanding efforts by the oil industry and some food processors to say otherwise. In fact, says McGuinness, corn prices don't have a significant impact on food prices, noting that USDA has shown 50-percent increases in corn prices historically amounts to a less than 1-percent increase in food prices.

He also cites a finding from the World Bank that the volatile price of oil is the most significant contributor to increases in food prices.

"This is an important concept to understand, because if the cost of transportation fuel is the most likely culprit behind rising food costs, then the [RFS] actually helps keep food prices low," the blog points out, citing an Iowa State University Center for Agricultural and Rural Development study showing that the RFS reduced the average price of a gallon of gas by \$1.09.

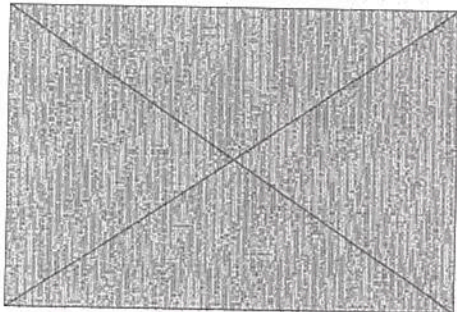
Another common refrain that does not stand up to scrutiny is that the RFS promotes biofuel blends that cause engine damage, he says. The current RFS ensures that 10 percent of a gallon of gasoline is ethanol, a blend level (E10) approved by all auto manufacturers. EPA's approval of E15 for most vehicles built over the last decade came after four years and hundreds of thousands of miles of DOE testing.

"What can't be disputed is the fact that the RFS helps support more than 800,000 jobs," McGuinness writes, "or that thanks to the RFS, the U.S. currently gets more of its liquid transportation fuel supply from homegrown biofuels than from oil imported from Saudi Arabia."

He says that "despite all of the money that has been heaped into bludgeoning the RFS, nothing beats good, old-fashioned facts. And the facts show that the RFS is good for everyone."

Apply now for 2014 Rural Energy for America Program Funding

Farmers, ranchers and rural small businesses can apply now for grants and loan guarantees for clean energy projects under the Rural Energy for America Program (REAP). The program was renewed in the 2014 Farm Bill and supports a wide range of energy efficiency and renewable energy technologies, including wind, solar, biogas, biomass, small hydroelectric, geothermal, tidal, wave, and hydroelectric technologies.



The USDA accepts applications year round and existing application forms can be used. Grants cover up to 25 percent of project costs. The loan guarantees facilitate lending by providing a guarantee of a portion of the principal to the lender.

An official notice of funding availability is expected in early April, with an application deadline 60 days later. The April notice would target some \$28 million in 2014 appropriations plus funds carried over from previous years. When the final REAP rule implementing provisions in the new farm bill is announced, probably this summer, a second funding announcement will be issued to make available some \$50 million in mandatory funding. Applications submitted but not funded in the first round will be considered in the second round.

FarmEnergy.org, an Environmental Law and Policy Center project, says there will be some changes in projects eligible for funding this year. Due to changes in the new farm

bill, there will be no funding for ethanol blender pumps or feasibility studies. As the statutory deadline has passed, there will be no funding for Energy Audit or Renewable Energy Development Assistance projects. The next opportunity to apply for those will be January 2015.

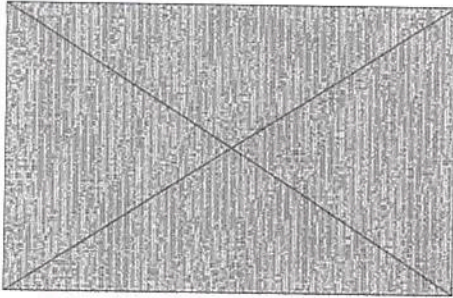
Potential applicants are reminded that USDA awards REAP funds on a competitive basis, both within a state and nationally. Applicants improve their chances with careful planning to maximize the score on their application. Applications are scored on a number of criteria where careful planning and self-scoring can increase chances of success.

Farmenergy.org provides tools and tips to help facilitate application preparation and self-evaluate applications scores. Application templates, which are available at the Iowa USDA REAP website, can help dealers and distributors prepare multiple applications.

Applicants are urged to check in early with the state staff of USDA rural development, who can answer questions and provide advice. State staff may also need to visit the project during the application process.

NREL Examines Solar Policy Pathways for States

DOE's National Renewable Energy Laboratory (NREL) has published a report that aligns solar policy and market success with state demographics. By organizing the 48 contiguous states into four peer groups based on shared non-policy characteristics, the NREL research team was able to contextualize the impact of various solar policies on photovoltaic (PV) installations.



"Although it is widely accepted that solar policies drive market development, there has not been a clear understanding of which policies work in which context," lead author Darlene Steward said. "This study provides much-needed insight into the policy scope and quality that is needed to spur solar PV markets across the United States."

The report, "The Effectiveness of State-Level Policies on Solar Market Development in Different State Contexts," includes statistical and empirical analyses to assess policy impacts in different situations.

In addition, four case histories augment the quantitative analytics within each state grouping, specifically:

- Expected leaders. In Maryland, a comprehensive policy portfolio with equal emphasis on all policy types is driving recent market development.
- Rooftop rich. In North Carolina, strong interest in clean energy-related policy distinguishes it from other states.
- Motivated buyers. Delaware's experience illustrates how targeted market preparation and creation policies can effectively stimulate markets.
- Mixed. In New Mexico, the leading state for installed capacity in its peer group, policy diversity and strategic implementation have proven to be critical in effectively supporting the market.

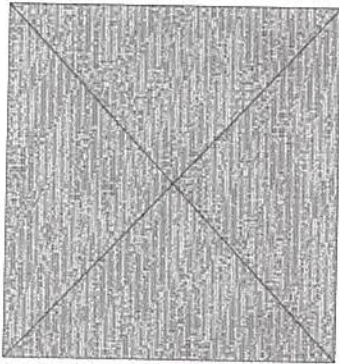
The analysis shows that the effectiveness of solar policy is influenced by demographic factors such as median household income, solar resource availability, electricity prices, and community interest in renewable energy.

The data also show that it's the number and the make-up of the policies that spur solar

PV markets. Follow-on research expected for release this summer identifies the most effective policy development strategies for each state context and provides strategies for states to take action.

As part of a larger effort to determine the most successful policy strategies for state governments, this report builds on previous research investigating the effect of the order in which policies are implemented.

The policy stacking theory, which is outlined in the "Strategic Sequencing for State Distributed PV Policies" report, aims to draw private investors to develop PV markets.



The April webinar from 25x'25 will feature a review the latest program updates from USDA on renewable energy and energy efficiency programs and tools, along with financing programs available through the department's Rural Utility Service (RUS).

The webinar will also include an update on 25x'25's Energy for Economic Growth (EEG) Project, through which 25x'25 and the National Rural Electric Cooperative Association are supporting a group of rural electric utilities in developing and piloting renewable energy for economic growth rate mechanisms and business and community engagement models.

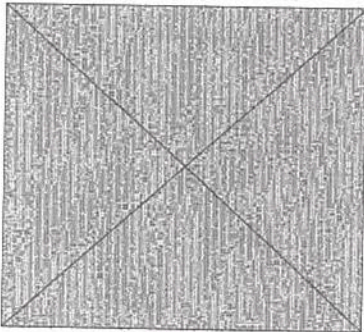
On hand to report findings and answer questions will be:

- John Padalino - RUS Administrator
- Todd Campbell - Special Assistant for Energy Programs, USDA
- Kip Pheil - Acting Leader, National Energy Technology Team, USDA-NRCS
- Jerry Vap - Chair, Energy for Economic Growth Team, 25x'25 Alliance

The webinar is free, but space is limited to the first 130 to register. To sign up for this informative event, click [HERE](#).

N.C. State Sets Webinar March 20 on Requirements for Potential Biofuel Facilities

With advanced biofuels refineries coming online around the country and many more in the planning phase, it will be important for landowners, biomass collection, harvest, storage and transportation interests, and biorefinery developers to know what regulatory steps are needed to qualify a new feedstock.



As the lead agency for implementing the Renewable Fuel Standard (RFS) program, EPA has evaluated a number of renewable fuel pathways and determined that they meet the 50-percent lifecycle greenhouse gas (GHG) reduction threshold for qualification as advanced biofuel.

This hour-long webinar will look at EPA's petition process for parties to request evaluation of additional fuel pathways, including fuels produced from new feedstocks, for eligibility to generate renewable identification numbers (RINs) to fulfill the volume requirements specified in the RFS program.

When: Friday, March 20, 2 pm EDT

Presenters:

- Aaron Levy, Program Analyst, Transportation and Climate Division, EPA
- Brent Bailey, 25x'25 Alliance

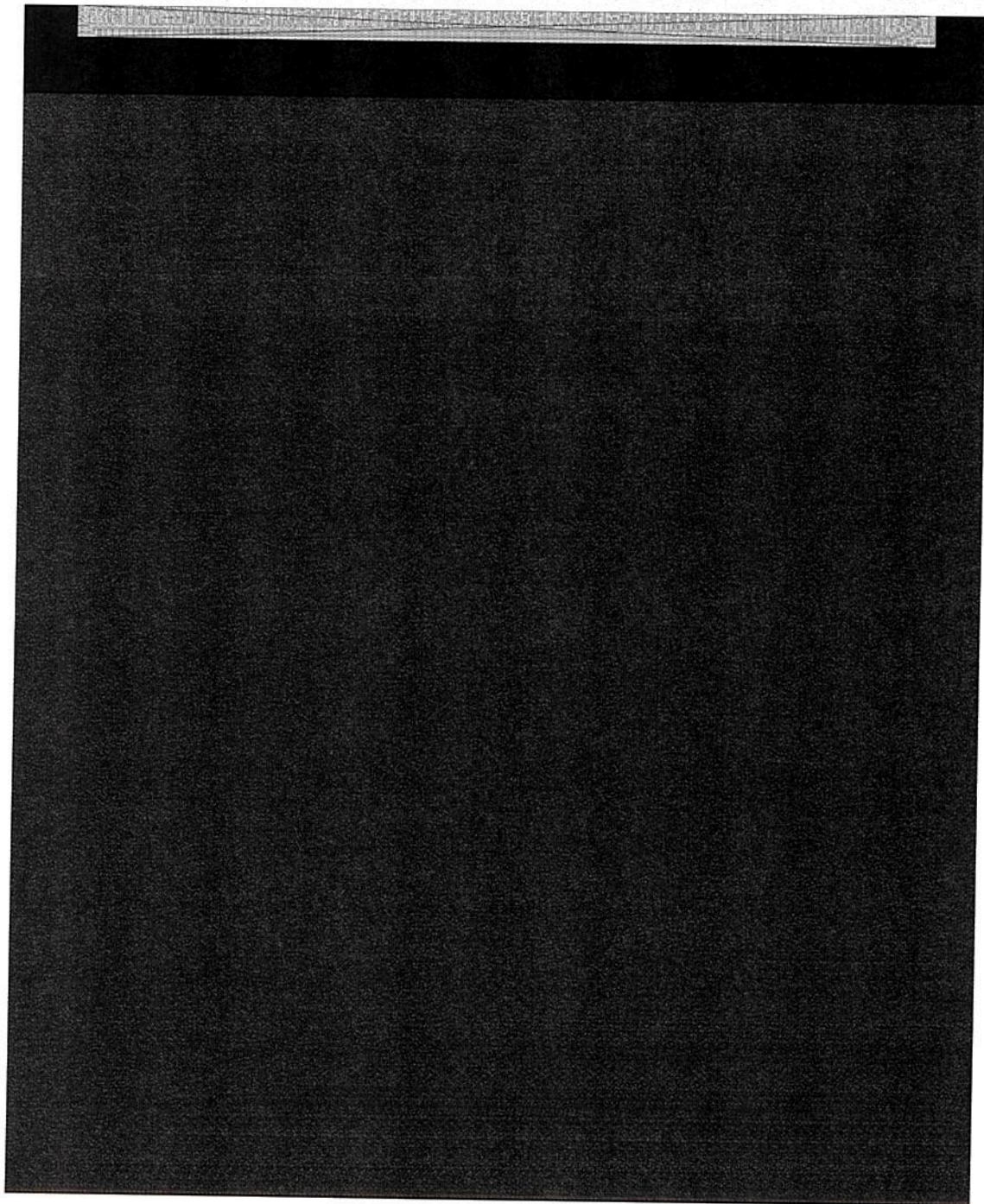
Credits:

Society of American Foresters - 1 hour Category 1 Credit (credits applied for)

Conservation Planner - 1 hour Conservation Planning Credit

For additional information on registration and participation, click [HERE](#).

Other events of interest to 25x'25 partners and other renewable energy stakeholders can be found by clicking [here](#).



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From: 25x'25
Sent: Tue 3/11/2014 9:41:37 PM
Subject: You're Invited to 25x'25's April Webinar: USDA Renewable Energy Programs: New Tools to Help Achieve the 25x'25 Vision

USDA Renewable Energy Programs: New Tools to Help Achieve the 25x'25 Vision

Date and Time:

Wednesday April 2, 2014 from
12:00 PM to 1:15 PM EDT

[Add to Calendar](#)

In 25x'25's April webinar, we will review the latest program updates from the USDA on renewable energy and energy efficiency programs and tools along with financing programs available through the Rural Utility Service. The webinar will also include an update on 25x'25's Energy for Economic Growth (EEG) Project through which 25x'25 and the National Rural Electric Cooperative Association are supporting a group of rural electric utilities in developing and piloting renewable energy for economic growth rate mechanisms and business and community engagement models.

The following experts will present the report findings and be available to answer questions:

- John Padalino - Administrator of the Rural Utilities Service (RUS), USDA
- Todd Campbell - Special Assistant for Energy Programs, USDA
- Kip Pheil - Acting Leader, National Energy Technology Team, USDA - NRCS
- Jerry Vap - Chair, Energy for Economic Growth Team, 25x'25 Alliance

To register for this free webinar, please click on the link below.

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To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Christopher Hessler
Sent: Thur 2/27/2014 11:31:35 PM
Subject: RE:

Ben,

I just noticed the "non-transferrable" bit at the bottom.

We are planning to bring Ken Zerafa, President, Umicore, and Dave Cetola, VP, Johnson Matthey along with Chris Miller and myself. I will get their info and submit it along with ours. Can you make sure they are in the "invited" list? Thanks.

Chris

Christopher Hessler
Partner
202-296-8086 (O)
202-460-0945 (M)
chessler@ajw-inc.com
2200 Wilson Blvd. / Suite #310 / Arlington, VA 22201

AJW's work focuses on enhancing market opportunities and removing market barriers for innovative technologies.

-----Original Message-----

From: Hengst, Benjamin [mailto:Hengst.Benjamin@epa.gov]
Sent: Thursday, February 27, 2014 6:01 PM
To: Christopher Hessler
Subject:

Chris -- can you confirm that you just got an invite from me for Monday, please?

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Lindsay Fitzgerald
Sent: Thur 2/27/2014 11:06:53 PM
Subject: Re: Barnes and Noble next week?

Vacation?!? I'm going to have to check the definition of that word...it hasn't been in my vocabulary for a long time!

I hope you have fun and don't take your blackberry :)

Let me know when you get back!
Lindsay

Sent from my iPhone

On Feb 27, 2014, at 5:04 PM, "Hengst, Benjamin" <Hengst.Benjamin@epa.gov> wrote:

Hey—sorry I missed you today. It's been just too much work lately!

How about later in March? I'm a mess next week, then out the week of the 10th (for vacation).... Ben

From: Lindsay Fitzgerald [<mailto:lfitzgerald@biodiesel.org>]
Sent: Wednesday, February 26, 2014 4:20 PM
To: Hengst, Benjamin
Subject: Barnes and Noble next week?

I went to the book store last week and thought of you ☺

We haven't chatted in a while, let me know if you are free at all next week to grab a drink. I just ordered 3 new cook books from Amazon but that doesn't stop me from browsing.

I'll be over for a meeting with Janet tomorrow, not sure if you will be there or not.

Lindsay

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Lindsay Fitzgerald
Sent: Wed 2/26/2014 9:20:18 PM
Subject: Barnes and Noble next week?

I went to the book store last week and thought of you ☺

We haven't chatted in a while, let me know if you are free at all next week to grab a drink. I just ordered 3 new cook books from Amazon but that doesn't stop me from browsing.

I'll be over for a meeting with Janet tomorrow, not sure if you will be there or not.

Lindsay

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Christopher Hessler
Sent: Mon 2/24/2014 11:10:16 PM
Subject: Friday

Ben,

It would help us, in our efforts to get quotes and executives, to know if you expect OEMs to offer supportive quotes.

Chris

Christopher Hessler

Partner

202-296-8086 (O)

202-460-0945 (M)

chessler@ajw-inc.com

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***** ATTACHMENT NOT DELIVERED *****

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Christopher Hessler
Sent: Mon 2/24/2014 8:47:23 PM
Subject: RE: quotes
[Tier 3 Quotes .docx](#)

Ben,

Here they are.

Is the public signing on for Wed?

Chris

Christopher Hessler

Partner

202-296-8086 (O)

202-460-0945 (M)

chessler@ajw-inc.com

2200 Wilson Blvd. / Suite #310 / Arlington, VA 22201



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From: Hengst, Benjamin [mailto:Hengst.Benjamin@epa.gov]
Sent: Monday, February 24, 2014 2:10 PM
To: Christopher Hessler
Subject: RE: quotes

Chris – not sure if Grundler wrote back to you, but you can send them directly to me if you haven't already sent to Chris. Thanks, Ben

From: Christopher Hessler [<mailto:CHessler@ajw-inc.com>]
Sent: Monday, February 24, 2014 1:20 PM
To: Grundler, Christopher
Cc: Hengst, Benjamin
Subject: quotes

Chris,

We have quotes from 3 organizations. Waiting for more.

OK to send directly to you?

Chris

Christopher Hessler

Partner

202-296-8086 (O)

202-460-0945 (M)

chessler@ajw-inc.com

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"EPA's Tier 3 rule will provide a significant opportunity to further reduce emissions from the light-duty vehicle fleet by utilizing an integrated systems approach that combines advanced emission control technologies with advanced engine designs and very low sulfur gasoline fuel. In addition, these advanced emission control technologies will enable all current and future high-efficiency vehicle powertrains to be viable options for complying with EPA's greenhouse gas pollutant standards," said MECA's executive director, Joseph Kubsh. "MECA congratulates the agency for all of its hard work in getting this rule finalized and for its continued efforts in helping to achieve the goal of cleaner air for all Americans. Our industry is prepared to do its part to deliver cost-effective, advanced emission control technologies to the marketplace."

Joe Kubsh, Executive Director, Manufacturers of Emission Controls Association (MECA)

AESI Executive Director, Chris Miller, said "Our members and their employees are pleased that the USEPA has issued a final Tier 3 rule to further reduce sulfur in fuels and enable use of the most advanced clean car technologies. This action gives important clarity to our industry so we can act on long-planned manufacturing investments which will secure America's continued global leadership in this field. We fully expect that new standards will contribute greatly and quickly to better air quality in communities across the country at very low cost."

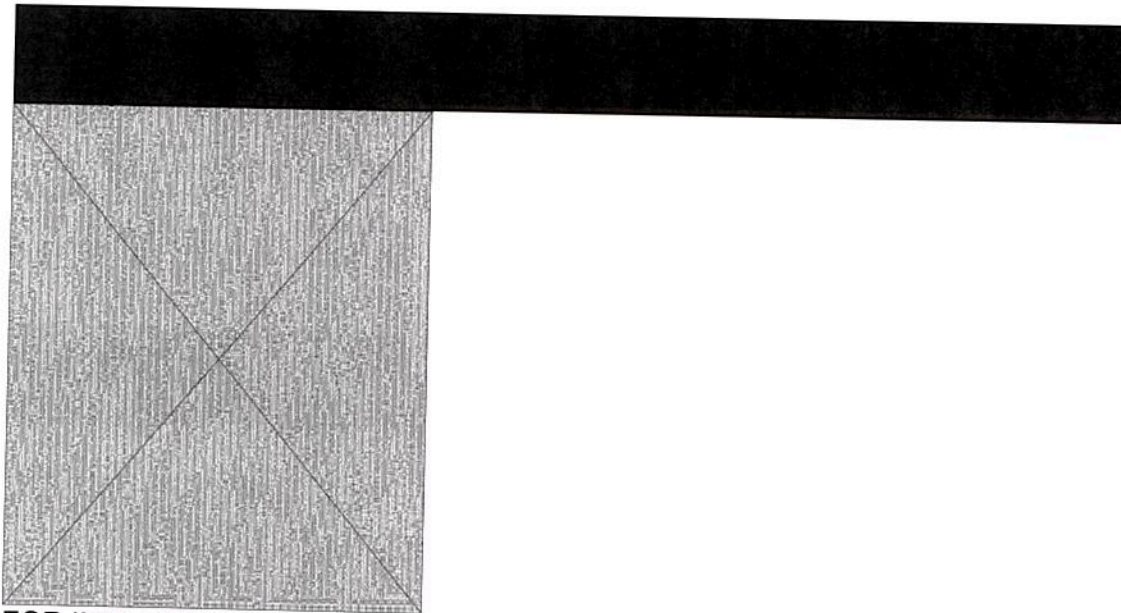
Chris Miller, Executive Director, Advanced Engine Systems Institute (AESI)

Umicore compliments the EPA for its forward thinking in establishing the Tier 3 emission control regulations. This regulation, which covers a ten year vehicle model design basis as well as harmonizing with California LEVIII, will solidify our company's long term investment and product development strategies to meet the market demands for these vehicles. In addition it will stabilize our workforce for the present and create future highly skilled jobs in research, engineering and manufacturing.

The reduced sulfur level will allow us to develop new catalyst technologies to meet various engine operating designs and also improve the performance of the current fleet.

Ken Zerafa, President, Umicore Autocat USA, Inc.

To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: 25x'25
Sent: Fri 2/14/2014 2:46:46 PM
Subject: 25x'25 Announces Key Appointments to Alliance Leadership Teams



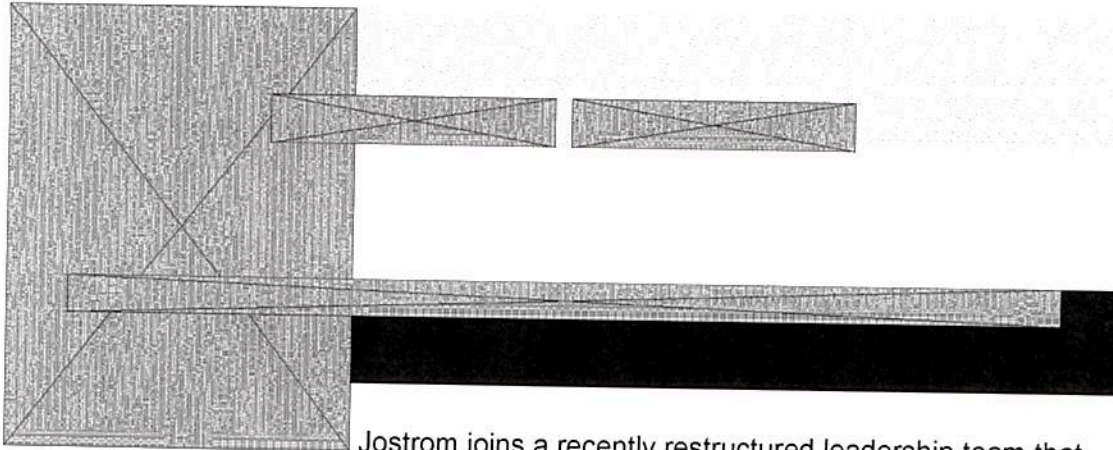
FOR IMMEDIATE RELEASE

25x'25 Announces Key Appointments to Alliance Leadership Teams

Mike Jostrom, the director of Renewable Resources with the Plum Creek Timber Company, has accepted a position on the Executive Committee of the 25x'25 Alliance.



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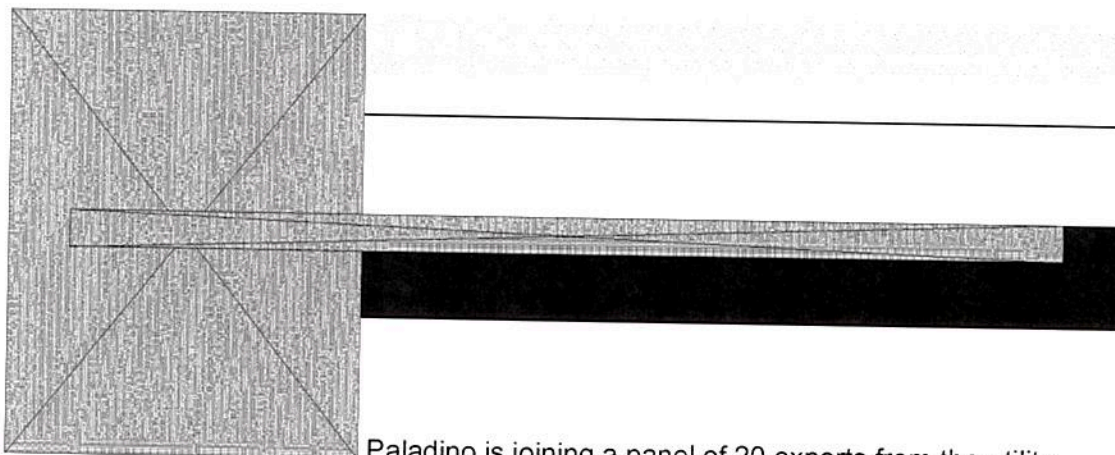


Jostrom joins a recently restructured leadership team that has responsibility for ensuring the effective functioning of the Alliance and the attainment of the 25x'25 goal.

Plum Creek Timber Company is one of the largest and most geographically diverse timberland owners in the United States.

Jostrom works with Plum Creek's business development team and is responsible for securing a positive policy and business environment for growing the renewable energy business and ensuring that the environmental and carbon benefits of sustainable forestry are recognized in policy and by the marketplace. He has been with Plum Creek for more than 30 years and has worked in forestry and timber management, habitat conservation planning, and more recently has led Plum Creek's forest productivity and harvest planning teams.

The 25x'25 Alliance also announced today that John Paladino, the administrator of USDA's Rural Utilities Service (RUS), was joining the Alliance's Energy for Economic Growth (EEG) Initiative as an ex-officio member of the project's Steering Committee.



Paladino is joining a panel of 20 experts from the utility, academic and renewable energy sectors, who are partnering with rural electric utilities in developing and piloting renewable energy for economic growth business and community engagement models that can be used to accelerate economic development and distributed renewable energy generation through rural electric cooperatives (RECs) and other power providers that serve rural communities. The initiative's ultimate goal is to partner with rural utilities in developing and testing renewable energy incentive policies and programs and sharing these results with the REC community across the country.

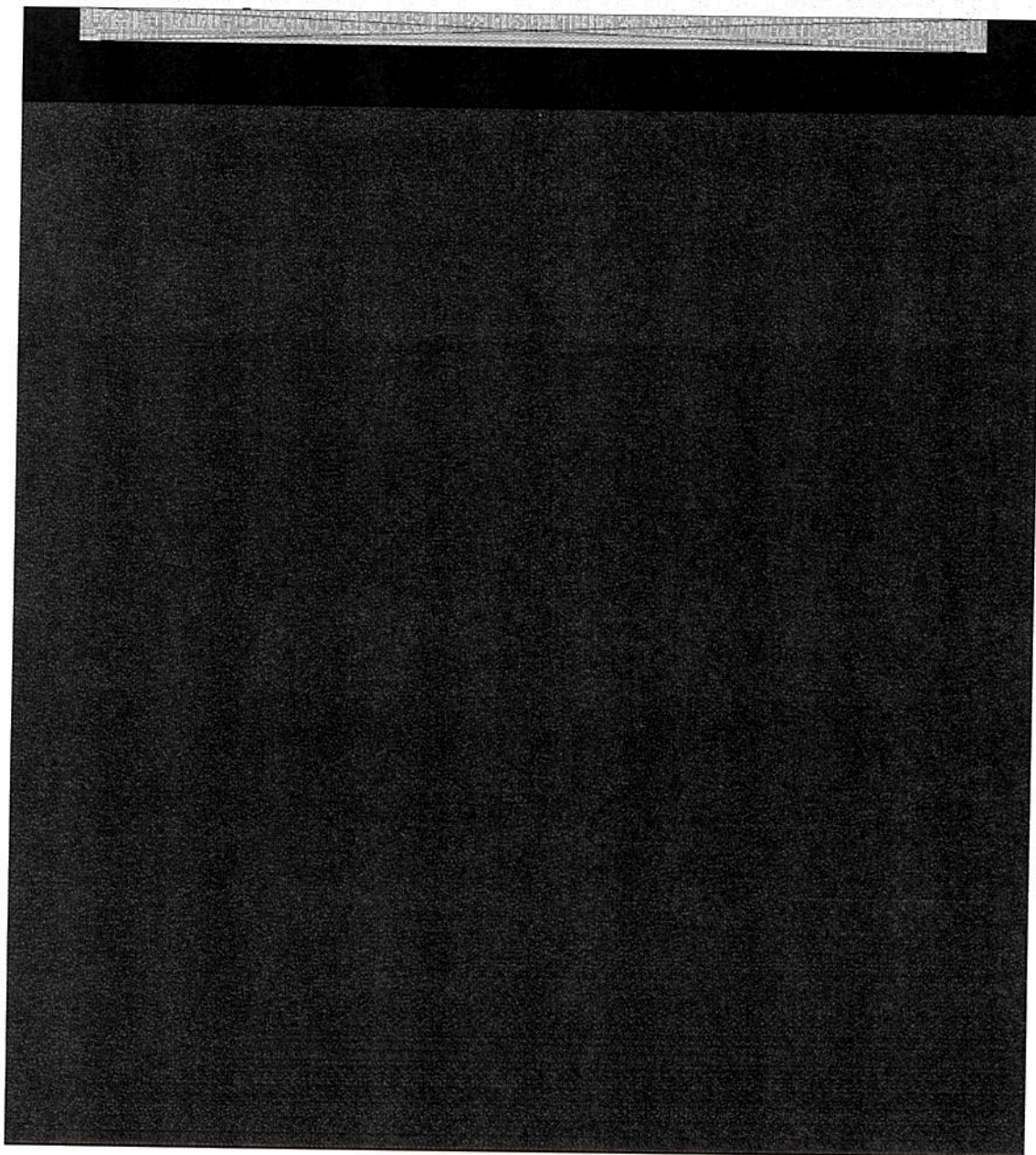
Paladino was sworn in as RUS administrator, a Rural Development agency, last June, after being named acting administrator in September 2012. His appointment followed his role as acting administrator for USDA Rural Development's Rural Business-Cooperative Service (RBS). Before coming to RBS, he served as the Acting Principal Deputy General Counsel for the Office of General Counsel and as Chief of Staff for former USDA Rural Development Under Secretary Dallas Tonsager.

RUS, the successor to the Rural Electrification Administration, has funded rural electric cooperative utilities since its creation in 1935. The service currently has more than \$60 billion in assets under management to finance electric, telecommunications and water and wastewater utilities serving rural areas nationwide.

25x'25 Executive Committee co-chairman Read Smith and Bart Ruth issued a statement welcoming Jostrom and Paladino to the Alliance's leadership.

"Mike and John both possess a tremendous depth of experience with sustainable energy issues and we are grateful that they will bring their capabilities into our ranks. They will make great contributions to our efforts in bringing about the 25x'25 Vision," the co-chairman stated.

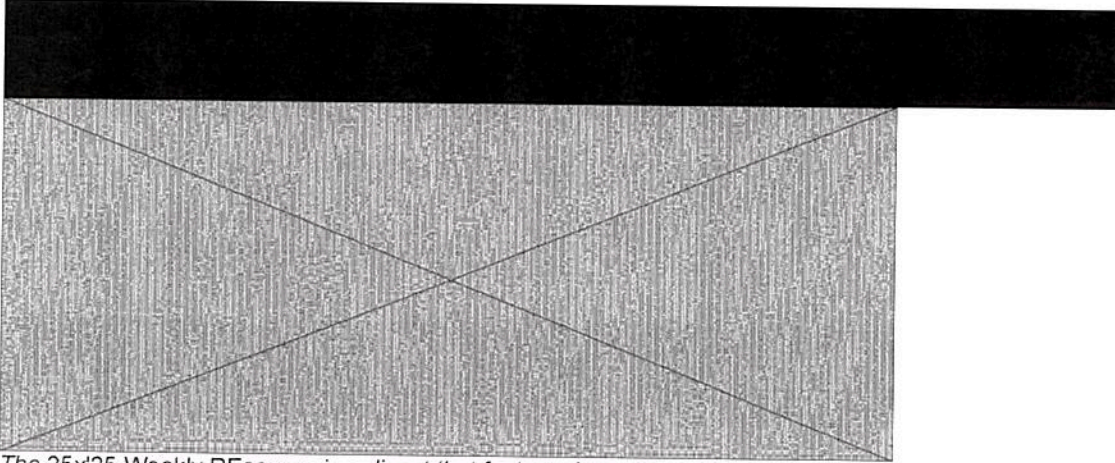
For additional information, contact Ernie Shea, 25x'25 project coordinator, at 410-952-0123 or at EShea@25x25.org.



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To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: 25x'25
Sent: Fri 2/7/2014 5:02:04 PM
Subject: Weekly REsource for Feb. 7, 2014



The 25x'25 Weekly REsource is a digest that features items from this week's blog site, the [25x'25 REsource](#), and other sources. The [25x'25 REsource](#) and the 25x'25 Weekly REsource complement the role of 25x'25 as an objective and trusted source of information on agricultural and forestry renewable energy and climate solutions. Also, visit us at our [Facebook page](#) and follow us on [Twitter](#).

Our Featured Blog

News of Note

Headlines of Note

Upcoming Events



Our Featured Blog

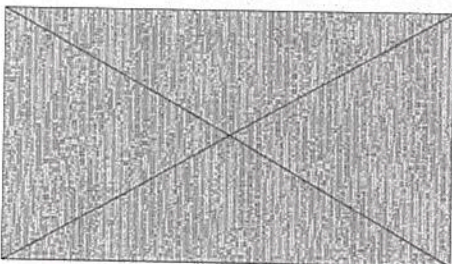
New Farm Bill to Make Efficiency Funds Available Through Electric Co-ops

Much has been made here and in other corners of the provisions in the new farm bill that promote renewable energy programs. But equally significant in terms of its contribution to a clean energy future is the inclusion of a program that gives rural electric cooperatives greater means to promote energy efficiency, the option of first choice in pursuit of the 25x'25 Vision. When President Obama on Friday signs into law the Agriculture Act of 2014, he will launch the Rural Energy Savings Program (RESP),

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News of Note
which will offer \$75 million annually in discretionary funding over the five-year life of the farm bill that USDA's Rural Utility Service (RUS) can use to make zero interest loans to eligible cooperatives for energy efficiency programs. While the majority of electric cooperatives and utilities have some form of energy efficiency programs, RESP marks for the first time the ability of co-ops to lend RUS funds to consumers to undertake their own efficiency upgrades. [Read more...](#)

The 2014 installment of the [Sustainable Energy in America Factbook](#) - produced for The Business Council for Sustainable Energy by Bloomberg New Energy Finance - has found that renewable energy, energy efficiency and natural gas advancements are leading a transformation of America's energy.



Despite ever-shifting political winds, the inherent business case for efficient and sustainable energy sources has become even stronger over the past year. The *2014 Factbook* documents the upward trajectory of renewable energy, energy efficiency and natural gas, using the latest data from 2013. Council leaders say the new edition adds another year of data to document the long-term transition to cleaner, lower-carbon sources of energy production.

Renewable energy provided 13 percent of U.S. electricity generation in 2013, up from 12 percent in 2012 and just 8 percent in 2007. At the same time, renewable energy costs reached all-time lows, allowing clean energy, with the aid of incentives, to be cheaper than fossil fuel electricity in some parts of the country.

Small, distributed generators and off-grid installations, meanwhile, began to emerge as a transformative force in the power industry. Financiers who back small-scale solar systems have raised nearly \$6.7 billion since 2008.

"The U.S. energy transformation that began in the mid-2000s gained additional momentum in 2013," said Lisa Jacobson, president of The Business Council for Sustainable Energy. "The *Factbook* plays a vital role in chronicling this fast-moving

Headline of Note is creating whole new industries and thousands of new jobs in the energy efficiency, natural gas and renewable energy sectors."

News of interest to our 25x'25 Partners and advocates for a clean energy future:

The factbook aims to provide policy makers, journalists and industry professionals with up-to-date, accurate market intelligence.

Biomass Outlook 2014: Is Biomass About To Go Bang?

DuPont Defends Ethanol Requirements

Ethanol Industry Set to Fight EPA Energy efficiency financing is on an upward trend. Spending by energy service companies and by electric and gas utilities, often to comply with state efficiency resource standards, totaled more than \$12 billion in 2012.

Goldman Sachs Sees "Transformational Moment" in Renewables Investment

How Far Can Renewable Energy Go? (video)

Meanwhile, 31 states and the District of Columbia, representing 77 percent of the U.S. population, have legislation in place to enable the financing of energy efficiency via property-assessed clean energy programs (PACE). Technology for smart grid and for smart homes is making its way into the market and has potential to be pervasive in the future, driving even further efficiency gains in the years ahead.

More than One-Third of New U.S. Energy Capacity Is Clean and Green

PV Solar's Path to 2 Cents Per KWh

"The changes unfolding in the U.S. energy industry have been profound and, by the typical time scale of the industry, abrupt," said Michael D. Caputo, Head of North American Analysis for Bloomberg New Energy Finance. "The effects of these changes will be felt in everything, every nook and cranny of the American economy, from military bases to manufacturing plants, from homes to highways. 2013 saw some detours from the long-term transformation of how the U.S. produces and consumes energy continues."

The Fuel That Keeps on Growing and Growing

State Legislators Spring to Geothermal Action as Federal Policy Stands Still

U.S. natural gas production and consumption reached all-time highs in 2013.

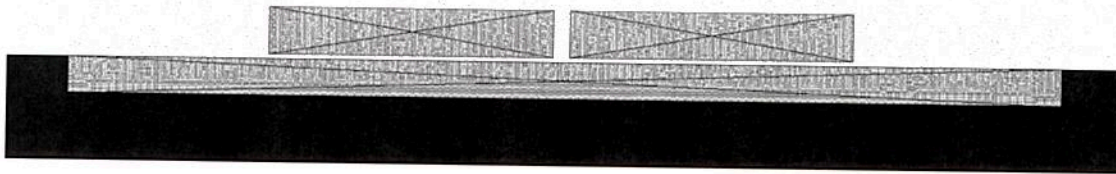
Victory for Clean Energy in Farm Bill the industry - mostly pipelines and storage facilities - reached \$15 billion. The natural gas share of electricity generation fell slightly

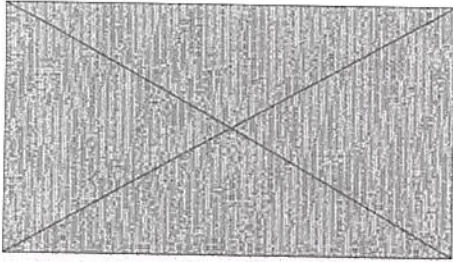
Wind Industry On 2012 Model into 2014 will be well above the 22 percent share in 2007. The slight dip in 2013 was due to a rebound from historically low gas prices the year before.

Upcoming Events

Uncertain and chaotic energy policy in Washington was the biggest speed bump for clean energy in 2013, the report states. For example, investment in wind power manufacturing and development slowed dramatically in 2013 due to the late extension of the Production Tax Credit (PTC), after its expiration at the end of 2012. The wind

25x25 Spokes 6PS





The "climate hubs" will address increasing risks such as fires, invasive pests, floods and drought on a regional basis, aiming to translate science and research into information to farmers, ranchers and forestland owners on ways to adapt and adjust their resource management.

"For generations, America's farmers, ranchers and forest landowners have innovated and adapted to challenges. Today, they face a new and more complex threat in the form of a changing and shifting climate, which impacts both our nation's forests and our farmers' bottom lines," said Vilsack. "USDA's climate hubs are part of our broad commitment to developing the next generation of climate solutions, so that our agricultural leaders have the modern technologies and tools they need to adapt and succeed in the face of a changing climate."

Plans were announced last summer to create the hubs, which will provide outreach and information to producers on ways to mitigate risks; public education about the risks climate change poses to farms, ranches and forests; regional climate risk and vulnerability assessments; and centers of climate forecast data and information.

The hubs will also link a broad network of partners participating in climate risk adaptation and mitigation, including universities; non-governmental organizations (including 25x'25); federal agencies such as the Department of Interior and the National Oceanic and Atmospheric Administration; Native Nations and organizations; state departments of environment and agriculture; research centers; farm groups and more.

Across the country, farmers, ranchers and forest landowners are seeing an increase in risks to their operations due to fires, increases in invasive pests, droughts, and floods, USDA officials say. For example, in the Midwest, growing seasons have lengthened by almost two weeks since 1950. The fire season is now 60 days longer than it was 30 years ago, and forests will become increasingly threatened by insect outbreaks, fire, drought and storms over the next 50 years.

The events threaten food supply and are costly for producers and rural economies. Drought alone was estimated to cost the U.S. \$50 billion from 2011 to 2013. Such risks have implications not only for agricultural producers, but for all Americans, USDA says.

The hubs were chosen through a competitive process among USDA facilities. In addition to the seven hubs, USDA is designating three subsidiary hubs ("sub hubs") that will function within the Southeast, Midwest, and Southwest. The sub hubs will support the hub within their region and focus on a narrow and unique set of issues relative to what will be going on in the rest of the Hub. The Southwest sub hub, located in Davis, CA, will focus on specialty crops and Southwest forests, the Southeast sub hub will address issues important to the Caribbean, and the Midwest sub hub will address climate change and Lake State forests.

The following locations have been selected to serve as their region's center of climate change information and outreach to mitigate risks to the agricultural sector:

- Midwest: National Laboratory for Agriculture and the Environment, Agricultural Research Service, Ames, Iowa
 - o Sub-Hub in Houghton, Mich.
 - Northeast: Northern Research Station, Forest Service, Durham, N.H.
 - Southeast: Southern Research Station, Forest Service, Raleigh, N.C.
 - o Sub-Hub in Rio Piedras, Puerto Rico
 - Northern Plains: National Resources Center, Agricultural Research Service, Fort Collins, Colo.
 - Southern Plains: Grazinglands Research Lab, Agricultural Research Service, El Reno, Okla.
 - Pacific Northwest: Pacific Northwest Research Station, Forest Service, Corvallis, Ore.
 - Southwest: Rangeland Management Unit/Jornada Experimental Range, Agricultural Research Service, Las Cruces, N.M.
 - o Sub-hub in Davis, Calif.
-

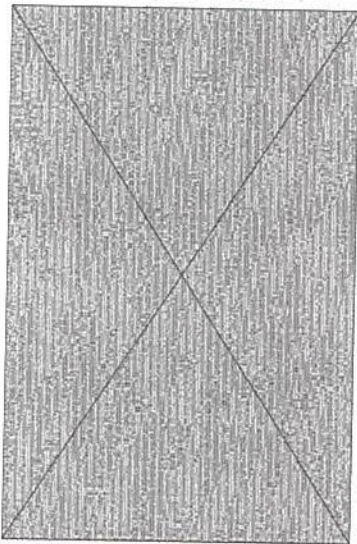
"This is the next step in USDA's decades of work alongside farmers, ranchers and forest landowners to keep up production in the face of challenges," Vilsack said. "If we are to be effective in managing the risks from a shifting climate, we'll need to ensure that our managers in the field and our stakeholders have the information they need to succeed. That's why we're bringing all of that information together on a regionally-appropriate basis."

The climate hubs will build on the capacity within USDA to deliver science-based knowledge and practical information to farmers, ranchers and forest landowners to support decision-making related to climate change across the country, officials say.

For more information, click [HERE](#).

Global Wind Industry Group Says Capacity up 12.4 Percent in 2013

Installations in China and Canada drove global wind power capacity up by 12.4 percent in 2013, totaling 318 gigawatts (GW) by the end of last year, according to the Global Wind Energy Council's latest annual assessment released this week.



However, the annual rate of increase dropped by nearly 10 GW, to 35,467 MW, attributable, the report says, to the fall in U.S. installations brought

about by uncertainty over the fate of the production tax credit (PTC) for renewable energy technologies that expired Dec. 31.

The American Wind Energy Association (AWEA) continues to make the case with Congress that the 2.3-percent/kilowatt-hour PTC for the first 10 years of new wind energy facilities should be extended and made retroactive.

AWEA CEO Tom Kiernan said that despite the drop for all of 2013, the United States experienced record growth for wind energy at the end of the year, a surge attributable to the extension last year of the PTC through 2013. He also cited investments in technological advancements that have driven down the cost of wind energy by 43 percent in just four years.

"Our current growth demonstrates how powerful the tax credit is at incentivizing investment in wind energy," Kiernan said. "Now it's up to Congress to ensure that growth continues by extending this highly successful policy."

AWEA's fourth quarter 2013 market report shows that at the end of 2013, there were more U.S. wind power megawatts under construction than ever in history: More than 12,000 MW of new generating capacity was under construction, with a record-breaking 10,900 MW starting construction activity during the fourth quarter. The wind projects under construction could power the equivalent of 3.5 million American homes, or all the households in Iowa, Oklahoma and Kansas, AWEA says.

The U.S. trade group said that at least 60 long-term, power purchase agreements for nearly 8,000 MW were signed by utilities and corporate purchasers last year. Of that total, 5,200 MW have not yet started construction. AWEA also said that Texas, Iowa, Kansas, North Dakota and Michigan are poised for major growth in wind energy in the coming years.

The global wind energy group says it believes that new installations around the world would increase and possibly surpass 2012 levels.

GWEC Secretary General Steve Sawyer said that outside of Europe and the United States, the global market grew modestly in 2013. But he cited "an exceptionally strong year in Canada" last year and said, "China is a growth market again, which is good news for the industry. The government's commitment to wind power has been reinforced once again by raising the official target for 2020 to 200 GW, and the industry has responded."

China's installed wind capacity was 91.4 GW at the end of 2013, up from 75.3 GW at the end of the previous year, making the nearly 16 GW of new capacity added the largest amount recorded by any nation in the world. Canada installed 1.6 GW of new capacity, more than the United States.

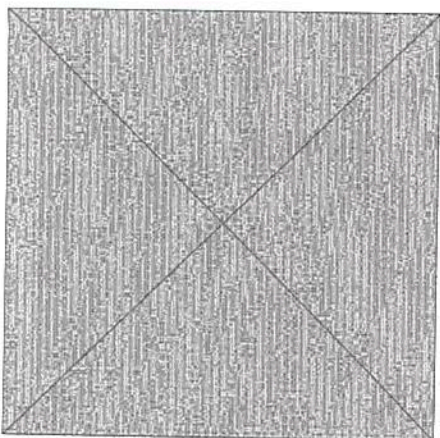
The GEWC also reports that markets are emerging in Africa, Asia and Latin America, where a steady stream of installations continues.

Installed capacity in Europe rose to just less than 121.5 GW from nearly 110 GW in 2012, growth described by the report as relatively sluggish.

"The main challenge is stabilizing the European markets, both onshore and offshore, which have been rocked by political dithering over the past few years," Sawyer said.

Project Seeks Profitable Cropping Systems that 'Scrub Carbon' Out of the Air

Cropping systems that are profitable for farmers and balance societal needs for food, feed, fuel, energy and clean air and water are the focus and challenge of Iowa State University's Landscape Biomass Project.



Ethanol made from corn kernels, a first-generation biofuels feedstock, accounts for more than 90 percent of U.S. biofuel production. Congress has mandated that second generation feedstocks be non-food biomass and be an increasing portion of the U.S. biofuel feedstock.

A team of 12 principal investigators is studying how to strategically integrate second generation bioenergy crops, such as triticale, switchgrass and trees, with food and feed crops to provide marketable products as well as ecosystem services. Highly erodible, sloped fields could be planted, for example, with the deep-rooted bioenergy crops.

Researchers on the project are assessing the amount of variation in grain yields, biomass yields, soil moisture and soil water quality among various cropping systems and landscape positions.

For every molecule of CO₂ taken out of the air to make biomass, which you combust or in some way put back in the air when you use bioenergy, more have been stored underground, said Emily Heaton, one of the researchers.

"The carbon stored underground will move through the carbon cycle through the soil, contributing to soil organic matter," said Emily Heaton, a member of the research team. "Some of it's going to eventually get respired back to the atmosphere, but you're going to build soil and store carbon below ground as you do it. Thereby you could be contributing to making the planet cleaner every time you drive your car and turn on the air conditioner."

Deep-rooted perennials, like switchgrass and trees, also hold soils in place even after harvesting and, depending on their placement in a cropping system, can take up excess nutrients that might otherwise run off into surface and sub-surface water.

The Landscape Biomass Project analyzes data from five novel cropping systems which are planted on a hillside, at the Iowa State Uthe Research Farm located in central Iowa. At the bottom of the hillside is a stream that eventually flows into Big Creek Lake.

"It might seem like this project is nothing new, but actually it's quite new because all of the agronomic and environmental research to date has been on flat homogenous land," Heaton said.

Project researchers found that the more diversified the cropping system, the more stable or even increasing crop yields are.

"That's despite the extreme climate variability we had in the four-year period of 2009 to 2012," Heaton said. "These findings suggest why diversity used to be more integral to crop management when more people owned their farmland and when they had more control over the markets for their crops."

The profitability of the five cropping systems also was analyzed. Of the five systems studied, the continuous corn cropping system was most profitable under current market conditions, followed by a corn-soybean rotation that incorporated triticale as a cover crop every third year and a corn-switchgrass system. A triticale-hybrid aspen intercropping system had the highest yields over the long term, but was not profitable under foreseeable market values.

Heaton said these results demonstrate the need for markets and other infrastructure to support advanced bioenergy crop growers.

"There's no crop insurance for these new crops. Your co-op doesn't know how to help you. People should not assume that farmers don't want to do anything other than grow

corn. It's not true. In fact, it's usually farmers who are most open to change. They are the ones reaching out to ask how they can make this work economically. But farmers are constrained by policy, by what they need to do to make a living in a given year," Heaton said.

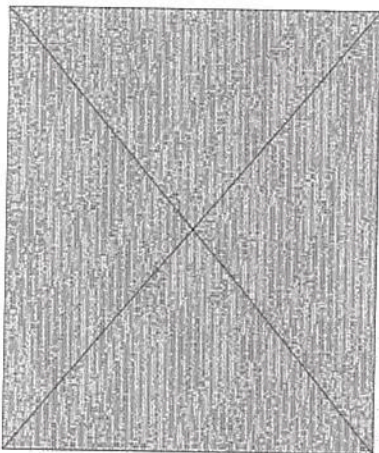
She said future plans for project outreach include educating policy makers and continued cropping systems research will help answer farmers' questions in the future.

"Our job is to figure out how to tell farmers to grow bioenergy crops on marginal land. We want to get all the research questions answered so that when we do have policies and markets that support diversification of farm systems, we can give good recommendations," Heaton said.

A journal article detailing the findings of the group's research to-date is available by clicking [HERE](#).

New Technique Makes 'Biogasoline' from Plant Waste

Gasoline-like fuels can be made from cellulosic materials such as farm and forestry waste using a new process invented by chemists at the University of California, Davis. Researchers say the process could open up new markets for plant-based fuels, beyond existing diesel substitutes.



"What's exciting is that there are lots of processes to make linear hydrocarbons, but until now nobody has been able to make branched hydrocarbons with volatility in the gasoline range," said Mark Mascal, professor of chemistry at UC Davis and lead author on the paper published Jan. 29 in an international journal published by the German Chemical Society.

The UC Davis researchers say traditional diesel fuel is made up of long, straight chains of carbon atoms, while the molecules that make up gasoline are shorter and branched. That means gasoline and diesel evaporate at different temperatures and pressures, reflected in the different design of diesel and gasoline engines.

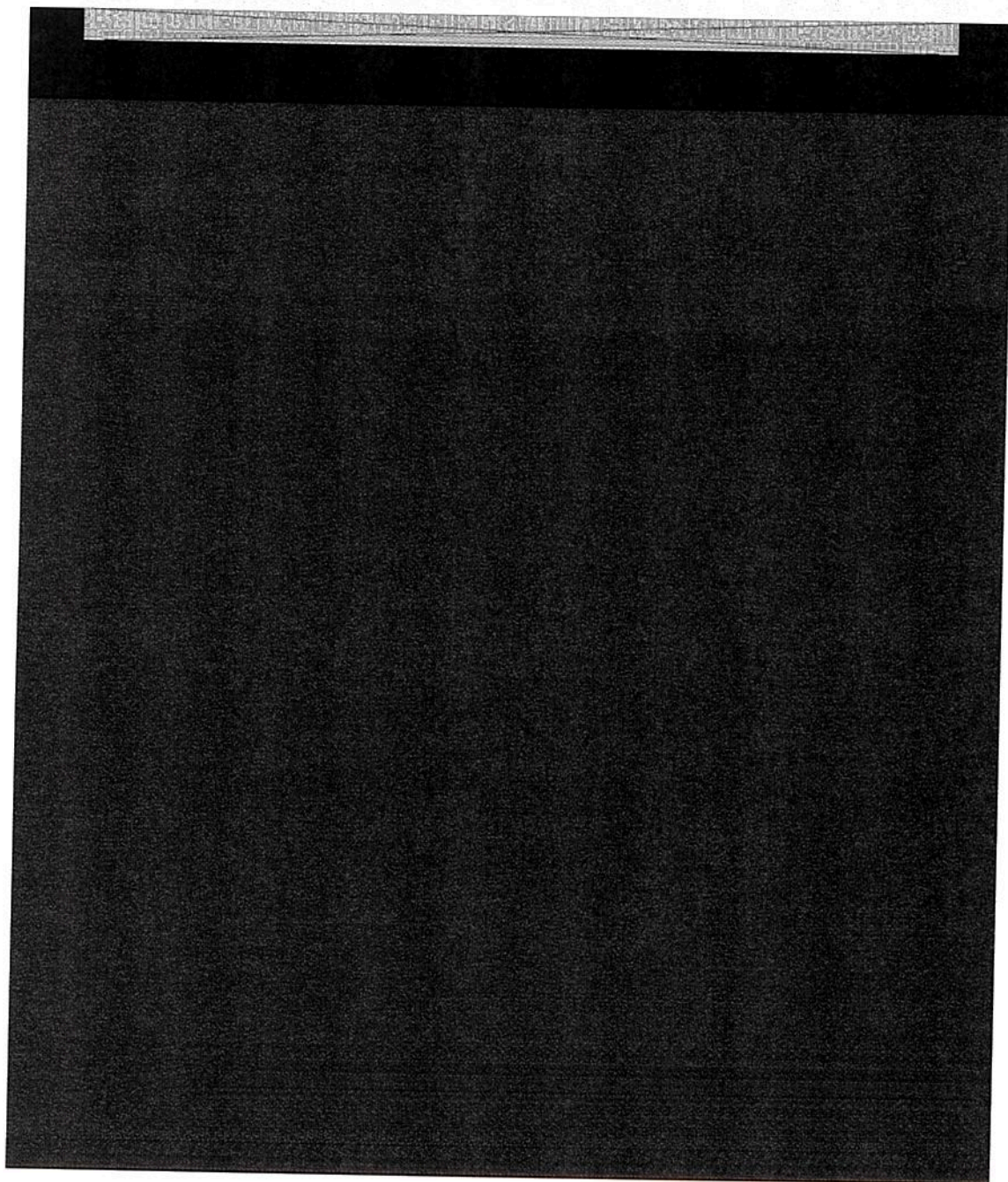
Biodiesel, refined from plant-based oils, is already commercially available to run modified diesel engines. A plant-based gasoline replacement would broaden the market for renewable fuels, researchers say.

The feedstock for the new process is levulinic acid, which can be produced by chemical processing of materials such as straw, corn stalks or even municipal green waste.

Mascal says it's a cheap and practical starting point that can be produced from raw biomass with high yield.

"Essentially it could be any cellulosic material," Mascal said. Because the process does not rely on fermentation, the cellulose does not have to be converted to sugars first.

UC Davis has filed provisional patents on the process.



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To: Christopher Hessler[CHessler@ajw-inc.com]; jkubsh@meca.org[jkubsh@meca.org]; Grundler, Christopher[grundler.christopher@epa.gov]; bbecker@4cleanair.org[bbecker@4cleanair.org]
Cc: Simon, Karl[Simon.Karl@epa.gov]; Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: Dotson, Greg
Sent: Tue 2/4/2014 8:55:38 PM
Subject: RE: Reminder: MECA Clean Air Panel in Washington on Feb. 4 from 4-6 pm

I'm sorry to miss it. Talk with you soon.
Greg

From: Christopher Hessler [mailto:CHessler@ajw-inc.com]
Sent: Tuesday, February 04, 2014 3:53 PM
To: Dotson, Greg; Joseph Kubsh; Grundler, Christopher; bbecker@4cleanair.org
Cc: Simon, Karl; Hengst, Benjamin
Subject: RE: Reminder: MECA Clean Air Panel in Washington on Feb. 4 from 4-6 pm

Greg,

You will be missed. Joe is taking over my moderator role this year, so that I can watch my boys' basketball game – so the questions you will miss would have been much higher quality.

Thanks for the Tier 3 update, and let us know if anything changes.

Chris

Christopher Hessler

Partner

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202-460-0945 (M)

chessler@ajw-inc.com

2200 Wilson Blvd. / Suite #310 / Arlington, VA 22201



AJW's work focuses on enhancing market opportunities and removing market barriers for innovative technologies.

From: Dotson, Greg [<mailto:Greg.Dotson@mail.house.gov>]
Sent: Tuesday, February 04, 2014 3:49 PM
To: Joseph Kubsh; Grundler, Christopher; bbecker@4cleanair.org
Cc: Simon, Karl; Hengst, Benjamin; Christopher Hessler
Subject: RE: Reminder: MECA Clean Air Panel in Washington on Feb. 4 from 4-6 pm

I have had a development here that will keep me from participating today. My sincerest apologies for missing it and for the late notice. No sign here of a serious run at blocking Tier 3!

Greg

From: Joseph Kubsh [<mailto:jkubsh@meca.org>]
Sent: Friday, January 31, 2014 1:20 PM
To: Grundler, Christopher; bbecker@4cleanair.org; Dotson, Greg
Cc: Simon, Karl; Hengst, Benjamin; Christopher Hessler
Subject: RE: Reminder: MECA Clean Air Panel in Washington on Feb. 4 from 4-6 pm

Thanks Chris, my fingers are crossed for you. Safe travels.

Joe Kubsh

MECA

From: Grundler, Christopher [<mailto:grundler.christopher@epa.gov>]
Sent: Friday, January 31, 2014 1:19 PM
To: Joseph Kubsh; bbecker@4cleanair.org; greg.dotson@mail.house.gov
Cc: Simon, Karl; Hengst, Benjamin; Christopher Hessler

Subject: RE: Reminder: MECA Clean Air Panel in Washington on Feb. 4 from 4-6 pm

I intend to be there, Delta Airlines willing....

From: Joseph Kubsh [<mailto:jkubsh@meca.org>]
Sent: Friday, January 31, 2014 10:59 AM
To: bbecker@4cleanair.org; greg.dotson@mail.house.gov; Grundler, Christopher
Cc: Simon, Karl; Hengst, Benjamin; Christopher Hessler
Subject: Reminder: MECA Clean Air Panel in Washington on Feb. 4 from 4-6 pm

Bill, Greg, Chris – just a reminder that MECA is looking forward to your participation in our annual Clean Air Experts Panel on the afternoon of February 4 in Washington starting at 4 pm EST. The panel will be held at the Courtyard Marriott Hotel on Scott Circle (16th & Rhode Island Ave., NW). I'm including Karl Simon and Ben Hengst on this email in case Chris' schedule does not allow for him to participate in the panel. MECA would welcome Karl or Ben or someone else from Chris' staff to represent EPA on the panel.

MECA will be using a conference room located in the basement of the hotel. No slides are needed, just your thoughts on the clean air priorities facing the U.S. in 2014. There will be no press at this event, just MECA members. There will be a reception following the panel at 6 pm that you all are invited to stay for. I thank you in advance for your time to speak with MECA members here in Washington next Tuesday afternoon. If you have any questions, you can reach me by email or on my cell: 703-403-8790. I look forward to seeing each of you next week.

Joseph Kubsh

Executive Director, MECA

2200 Wilson Blvd., Suite 310

Arlington, VA 22201

Phone: 202-296-4797 ext. 107

Email: jkubsh@meca.org

www.meca.org

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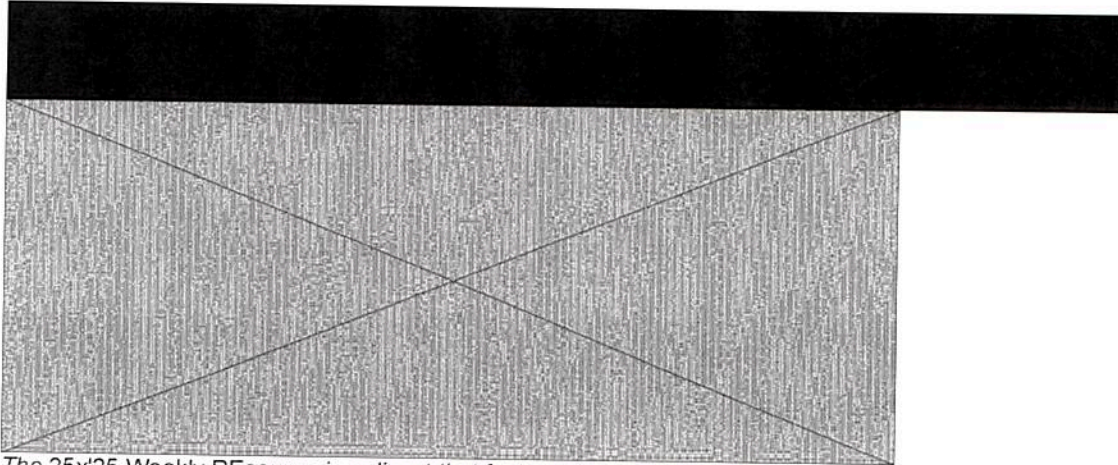
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To: Hengst, Benjamin[Hengst.Benjamin@epa.gov]
From: 25x'25
Sent: Fri 1/31/2014 6:21:53 PM
Subject: Weekly REsource for Jan. 31, 2014



The 25x'25 Weekly REsource is a digest that features items from this week's blog site, the [25x'25 REsource](#), and other sources. The [25x'25 REsource](#) and the 25x'25 Weekly REsource complement the role of 25x'25 as an objective and trusted source of information on agricultural and forestry renewable energy and climate solutions. Also, visit us at our [Facebook page](#) and follow us on [Twitter](#).

Our Featured Blog

News of Note

Headlines of Note

Upcoming Events



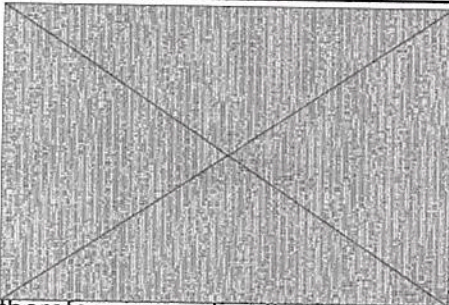
Our Featured Blog

25x'25 Partners, State Supporters Succeed in Shaping 2014 Farm Bill

It took almost two years, but Congress is now in the final stages of passing a new, five-
STAY CONNECTED

~~News of the~~ will strongly support renewable energy and energy efficiency programs that help keep this nation on the path to a clean energy future. And much of the credit for this major policy renewal can go to the legions of 25x'25 partners, state leaders and other renewable energy advocates who made lawmakers understand the need for these important programs. The new farm bill contains strong energy, conservation and rural development titles that underscore the role federal policy plays in boosting the rural economy. Key among the bill's provisions is a stand-alone Energy Title that provides nearly \$900 million in mandatory funding for renewable energy and energy efficiency programs critical to a 25x'25 clean energy future. [Read more](#) on the all-of-the-above energy strategy he said his administration is pursuing, but said nothing about biofuels.

Guest Blog: An Ambitious 90x'50 Renewable Energy Goal for Vermont



0-percent renewable energy future by 2050. Given available Vermont renewable energy resources will [Read more](#) style and energy consequences of the energy vision are almost incalculably superior to any bringing with them GHG emission reductions that will from fossil to renewable energy sources. It is therefore imperative that we comprehend the daunting challenges we will face on this path. [Read more](#) back is our commitment to American energy," he told Congress Tuesday night. "The all-of-the-above energy strategy I announced a few years ago is working, and today, America is closer to energy independence than we've been in decades."

He did cite solar development, noting that the United States is becoming a "global leader" in the technology, while again challenging tax benefits received by oil interests.

"Every four minutes, another American home or business goes solar; every panel pounded into place by a worker whose job can't be outsourced. Let's continue that progress with a smarter tax policy that stops giving \$4 billion a year to fossil fuel industries that don't need it, so that we can invest more in fuels of the future that do," the president said.

The president spent some time talking about the economic benefits created by surging recovery of natural gas in the country, but also acknowledged the environmental issues associated with natural gas development, saying his administration will strengthen protections of air, water and "our communities."

Headlines of Note

~~Obama also gave a nod to 25x25 partners and advocates for a clean energy future:~~
News of President Obama's new biofuel efficiency goal, stating that "even as we've increased energy production, we've partnered with businesses, builders, and local communities to reduce the energy we consume."

Clean Energy Needs Congress' Support, Not Its Cold Shoulder

The president said "climate change is a fact," contending that "new sources of energy" were critical in addressing the problem.

Foundations Join to Divest Fossil-Fuel Stocks, Invest in Clean Energy

In The Midwest, Farmers Leading the Way on Solar Power

The president's failure to address biofuels did not go unnoticed within the renewable fuels community, which countered with criticism of the administration's pursuit of a proposal reducing the federal Renewable Fuel Standard biofuel blending requirements for 2014. EPA closed out a 60-day comment period on the proposal Tuesday and is expected to issue a decision this spring.

'Near Unanimous Support': Kansas Sends Renewable Energy Message

~~The biofuels advocacy coalition Fuels America said that while it was "heartened by the president's commitment to an all-of-the-above energy policy," the administration's proposal to "reverse the progress of the RFS" contradicts this rhetoric.~~
New U.S. Renewable Energy Capacity 3X Coal, Oil And Nuclear Combined
Renewables Provide 37% of All New U.S. Electrical Generating Capacity in 2013

Renewable Spending to Turn Corner as Bonds Hit Record, BNEF Says

U.S. Solar Jobs Grow 20% to More Than 142,000 Last Year

~~The group said that EPA's obligation to consider the thousands of comments from farm families, small business owners, labor groups and environmental advocates.~~
UT Austin Engineer Converts Yeast Galls into 'Sweet Crude' Biofuel
Administration's commitment to a clean energy future if the EPA proceeds down its
Wind Energy Blows Strongly to Kick Off 2014

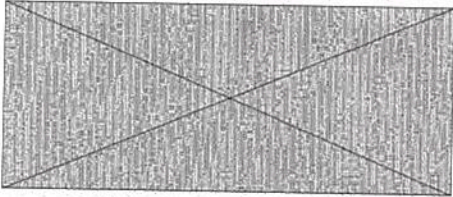
Upcoming Events

Adam Monroe, regional president for Novozymes, an advanced biofuel developer, said that while the president referenced new sources of energy, "the transportation fuel of the future is biofuels and it's ready now. The RFS is the nation's only long-term energy and climate policy. It has cut the emissions that lead to climate change, while creating wealth through investment, jobs and rural growth. Strong, stable policy is key to keeping this momentum. We can't let our environment and economy suffer because of policy instability."

25x25 Sponsors



The 25x'25 Alliance submitted comments to EPA Tuesday calling on the agency to reject its proposal to reduce 2014 biofuel blending requirements under the federal Renewable Fuel Standard (RFS).



The proposed reductions will have "significant economic repercussions for farmers, landowners, biofuel producers, rural communities, local businesses, and local governments. The reductions will also have adverse repercussions on our national security, environmental and public health, clean-tech investors and fuel consumers."

The Alliance goes on to tell EPA that if the blending requirements are reduced, "only the oil sector will enjoy economic returns as demand for gasoline increases along with the price of crude oil."

The proposal issued Nov. 15 would require refiners to blend 15.21 billion gallons of renewable fuels into petroleum-based gasoline and diesel next year, a reduction of 2.95 billion gallons from the 2014 target set by a bipartisan vote of Congress in 2007, when lawmakers expanded the RFS through the Energy Independence and Security Act. The overall renewable fuel mandate proposed for this year is also considerably less than the total required in 2013.

A lion's share of the proposed reduction would come in the corn ethanol requirement, which would drop from 14.4 billion gallons to a little more than 13 billion gallons, an amount even less than the 13.8 billion gallons required last year. And it would keep this year's biodiesel requirement at about the same 1.28 billion gallons called for last year, despite the fact that U.S. producers generated an estimated 1.7 billion gallons last year.

In its 10-page comments document, 25x'25 said EPA's attempt to address the so-called "blend wall" - the point where gasoline supply is insufficient to blend the amount of biofuel required by the RFS - by reducing the blending requirements was based on the

agency's incorrect assumption that larger percentages of renewable fuel could not be blended into gasoline beyond 10 percent. The Alliance says the agency proposal "significantly underestimates the volume of renewable fuel that can be consumed in 2014 and beyond."

The Alliance also says the agency RFS proposal will result in idled biofuels facilities, lost jobs, reduced spending in the local communities and reduced tax revenues to the local government. The drastic cuts proposed by EPA will have an impact on farm and rural economies by pushing down the price American farmers receive for some of their commodities to below the cost of production, even after farmers worked hard to rebound from the devastation of the 2012 drought, the Alliance said.

"Instead of being rewarded for their hard work and ingenuity to bring in a record corn crop, solid soybean yields and other ag-based feedstocks, farmers will have to deal with fewer marketing options and shrunken revenues," 25x'25 stated.

Reducing the required levels of biofuels for 2014 "will damage our nation's energy security as biofuels have helped to reduce our nation's dependence on foreign sources of oil," the Alliance said. The proposed reductions also will chill investment in, and prohibit the development of, next-generation biofuels, threatening the billions of dollars that have already been invested in future biofuel development and the billions that companies from all over the world are poised to invest, 25x'25 told EPA.

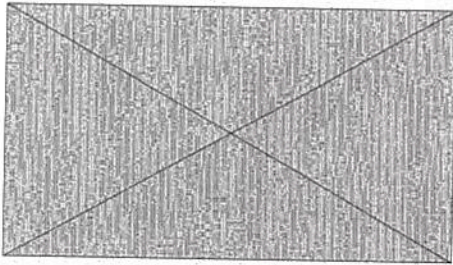
"The 25x'25 Alliance respectfully urges EPA to abandon this proposal and stick to the RFS targets outlined by Congress," the group concluded.

To read and download the 25x'25 comments to EPA on the agency's proposal for 2014 RFS biofuel blending requirements, click [HERE](#).

Renewables Made Up More Than a Third of New U.S. Grid Capacity in 2013

A Federal Energy Regulatory Commission (FERC) report shows 37 percent of all new U.S. electrical generation capacity in 2013 came from renewable resources, including

biomass, geothermal energy, hydropower, solar power and wind energy.



Ken Bossong, executive director of the SUN DAY renewable energy advocacy campaign, says the 5,279 megawatts (MW) in new power capacity from renewables last year is more than that provided in 2013 by coal (1,543 MW, or 10.86 percent) and oil (38 MW, 0.27 percent). No new nuclear facilities were brought online last year.

Natural gas was the big contributor in new capacity, adding 7,270 MW (51.17 percent) in 2013, while waste heat provided the balance, with 76 MW (0.53 percent).

Bossong says that among renewable energy sources, 266 new solar units totaling 2,936 MW were added, while 18 new wind energy facilities added 1,129 MW last year. Ninety-seven new biomass units added 777 MW, while 19 new hydropower units added 378 MW of new capacity. Four new geothermal steam units brought 59 MW online.

The newly installed capacity being provided by the solar units is second only to that of natural gas, Bossong said, noting that the new solar capacity in 2013 is 42.80 percent higher than that for the same period in 2012.

For the two-year period (calendar years 2012 and 2013), renewable energy sources accounted for 47.38% of all new generation capacity placed in-service, adding 20,809 MW.

Bossong says renewable energy sources now account for nearly 16 percent of total installed U.S. operating generating capacity, with hydropower making up 8.44 percent of the total. Wind accounts for 5.2 percent, biomass 1.36 percent, solar 0.64 percent, and geothermal steam 0.33 percent.

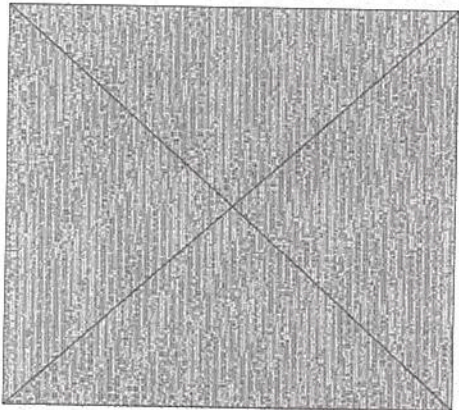
Total renewables amount to more than nuclear (9.25 percent) and oil (4.05 percent) combined over the two years.

Bossong says that the actual net electricity generated from the renewable capacity in the United States now stands at about 13 percent, according to the most recent data available from the DOE's Energy Information Administration.

He says the growth of renewables is likely to accelerate as the costs for new solar and wind, in particular, continue to drop, making them ever more competitive with fossil fuels and nuclear power.

New Study Finds U.S. Solar Jobs Grew 20 Percent Last Year

The U.S. solar industry employed 142,698 Americans in 2013, including 23,682 new solar jobs over the previous year, representing 19.9 percent growth in employment since September 2012, says the fourth annual National Solar Jobs Census released this week by The Solar Foundation (TSF), an independent nonprofit solar research and education organization.



The foundation says the census shows that solar employment grew 10 times faster than the national average employment growth rate of 1.9 percent over the same period.

"The solar industry's job-creating power is clear," said Andrea Luecke, executive director and president of The Solar Foundation. "The industry has grown an astounding 53 percent in the last four years alone, adding nearly 50,000 jobs. Our census findings show that for the fourth year running, solar jobs remain well-paid and attract highly-skilled workers. That growth is putting people back to work and helping local economies."

Solar employers are also optimistic about 2014, expecting to add another 22,000 jobs over the coming year. By comparison, over the same time period, the fossil fuel electric generation sector shrank by more than 8,500 jobs (a decline of 8.7 percent) and jobs in coal mining grew by just 0.25 percent, according to the Bureau of Labor Statistics Current Employment Survey (not seasonally adjusted) for September 2012 through November 2013.

"The solar industry is a proven job-creator," said Bill Ritter, former governor of Colorado and director of the Center for the New Energy Economy at Colorado State University. "In Colorado and across the country, we have seen that when the right policies are in place to create long-term market certainty, this industry continues to add jobs to our economy."

Lyndon Rive, CEO of SolarCity, said, "More than 90 percent of Americans believe we should be using more solar, [yet] less than one percent have it today. We've barely begun this transformation, but as it advances, the American solar industry has the potential to be one of the greatest job creators this country has ever seen."

Solar companies also report that cost savings are driving client decision-making, noting that 51.4 percent of customers report going solar to save money, and another 22.9 percent because costs are now competitive with utility rates.

"Tens of thousands of new living-wage jobs have been created over the past year thanks to plunging solar technology costs, increasing consumer demand, and supportive government policies," said Amit Ronen, Director of The George Washington University Solar Institute. "As the nation's fastest growing energy source, we expect the solar industry will continue to generate robust job growth for at least the next decade."

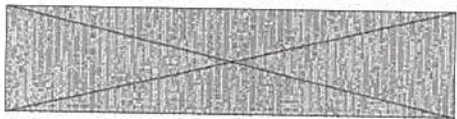
The National Solar Jobs Census 2013 was conducted by the foundation and BW Research Partnership with support from the GW Solar Institute. The report, derived from data collected from more than 2,081 solar firms, measured employment growth in the solar industry between September 2012 and November 2013. The margin of error of this data set is +/-1.3%, significantly lower than any similar national industry study.

"The study shows both aggressive hiring and clear optimism among US solar companies," said Philip Jordan, vice president at BW Research. "Of particular interest was the continued high wages among solar installers, who earned an average of between \$20.00 and \$23.63 per hour. We also found higher than average employment of veterans in the solar industry, a sign that their high-tech skills are valued in this sector."

State-by-state jobs numbers, including a more detailed analysis of the California, Arizona, and Minnesota solar markets, will be released in February.

ACORE Study: Southeast Has Good Renewable Energy Resources, But...

The Southeastern region of the United States has good renewable energy resources, but lacks the strong policy to fully realize the production and power that could be created by those resources, says the final portion released this week of the American Council On Renewable Energy's (ACORE) 6th annual Renewable Energy in the 50 States report.



The last in a four-part series, Renewable Energy in the 50 States: Southeastern Region focuses on the renewable energy sector in the fourteen Southeastern states (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia), and reviews state energy policies and programs, investment and market openness as they relate to the current state of renewable energy and its potential for further growth.

"The Southeast certainly has suitable renewable energy resources - like the tremendous biomass resources that are a dominant source of renewable power in the Southeast and now also exported to Europe," said Lesley Hunter, ACORE's research and program manager and lead author of the report. "However, the Southeastern states have often been reluctant to create market signals attractive to renewable energy developers and investors -including appropriate incentives and government initiatives."

Just three states of the fourteen profiled in the report (North Carolina, Texas, and West Virginia) have binding renewable portfolio standards (RPSs) that would attract investors, create jobs and send positive market signals.

Excluding Texas, the nation's largest producer of wind power, the Southeast only attracted about 10 percent of the asset finance, venture capital and private equity raised for renewable energy in the country in 2012 (and about 5 percent in the first nine months of 2013).

While ten of the 14 states in Southeast Region have no installed wind power capacity, two of the outliers are nationally recognized hubs for wind development: Texas and Oklahoma. To support the growth of the nation's largest wind power market, Texas is building a \$7 billion transmission system designed to facilitate the transmission of about 18.5 GW of wind power from turbines located in West Texas to the population centers farther east in the state.

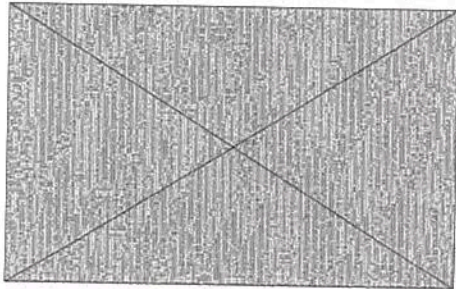
Louisiana and a few other states have developed emerging distributed generation markets, and Georgia, North Carolina, Texas and Florida are home to larger-scale solar development. Georgia Power plans to have nearly 800 MW of solar power commissioned or under contract with developers by 2016. North Carolina has recently become one of the largest developing solar markets in the nation, ranking second in new solar capacity in 2013.

While the region as a whole lags behind national development trends, a few Southeastern states-notably North Carolina, Georgia, and Texas-have emerged as hotspots for growth.

"One of the goals of the 50-State Report was to highlight the economic benefits of renewable energy that is supported by state policy," Hunter said. "The data in the report offers the opportunity to compare and contrast and will hopefully encourage states to take advantage of their resources to create jobs and attract investment."

DOE Offers Funding for Wind Energy, Geothermal Development

DOE's Office of Energy Efficiency and Renewable Energy (EERE) this week announced the availability of \$2 million to help efficiently harness wind energy using taller towers, and another \$3 million to spur geothermal energy development.



The wind projects, officials say, will help strengthen U.S. wind turbine component manufacturing, reduce the cost of clean and renewable wind energy, and expand the geographic range of cost-effective wind power in the United States. The department says the latest effort supports the Clean Energy Manufacturing Initiative to increase the efficiency of the U.S. manufacturing sector and ensure that clean energy technologies continue to be made in America.

In the northeastern, southeastern, and western United States, wind conditions near the ground are often low or turbulent, limiting the amount of electricity generated from wind energy. Taller wind turbines take advantage of the stronger, more consistent winds available at greater heights, thereby increasing the number of locations that can cost-effectively produce renewable wind energy, officials say.

While utility-scale wind turbines in operation today average 90 meters, projects supported by this funding will engineer design concepts for fabricating and installing turbine and tower systems with a minimum hub height of 120 meters.

For more information on the latest funding opportunity, go to [Wind Program's Funding Opportunities Web page](#).

The geothermal funding, DOE says, is aimed at accelerating project development using what's call " play fairway analysis," a technique that identifies prospective geothermal resources in areas with no obvious surface expression by mapping the most favorable intersections of heat, permeability, and fluid.

While commonly used in oil and gas exploration, play fairway analysis is not yet widely used in the geothermal industry. By improving success rates for exploration drilling, the data-mapping tool could help attract investment in geothermal energy projects and significantly lower the costs of geothermal energy, DOE said.

The U.S. Geological Survey estimates that 30 gigawatts of undiscovered hydrothermal energy potential exist untapped beneath the Earth's surface - nearly 10 times the current installed capacity of geothermal energy in the United States.

Federal officials say that one of the keys to tapping the clean resource is reducing the cost and risk of locating it. By quantifying and reducing the risk of exploratory drilling, play fairway analysis projects could unlock significant geothermal energy resources and accelerate industry-wide adoption of the tool.

DOE will support one-year collaborative research and development projects, especially in new, unexplored areas, that adapt play fairway analysis to geothermal exploration.

For more about the geothermal funding opportunity, click [HERE](#).



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